EXHIBIT 26

ONCOLOGY THERAPEUTICS NETWORK

January/February 1997

THE NETWORK NEWS

A BIMONTHLY UPDATE FOR COMMUNITY-BASED ONCOLOGY PROFESSIONALS

ROUTE TO:
- ☐ Physician
- ☐ Office Manager
- ☐ Oncology Nurse
- ☐ Pharmacist
- ☐ Business Office
- ☐ _____

INSIDE

PLAINTIFF'S EXHIBIT
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HIGHLY CONFIDENTIAL
BMS/AWP/000095588

ONCOLOGY THERAPEUTICS NETWORK

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INSIDE

ONCOLOGY
THERAPEUTICS
NETWORK

HEALTH AND SAFETY ADVICE ON HANDLING ONCOLOGY PRODUCTS

FIRST IN A SERIES OF THREE

Oncology Therapeutics Network (OTN) is committed to providing information on the safe handling of the products that we sell. As an added value to our customers, OTN will be addressing health and safety issues in this and future publications of *The Network News*. The first, and two subsequent articles, will highlight key information outlined in OSHA's *Controlling Occupational Exposure to Hazardous Drugs*.[1]

Healthcare employees need to recognize that there are several pharmaceuticals that pose an occupational risk through acute and chronic exposure. It would be shortsighted of any healthcare worker to be mindful only of drugs used to treat cancer. There are four drug characteristics, each of which should be considered hazardous:

- Genotoxicity
- Carcinogenicity
- Teratogenicity or fertility impairment
- Serious organ or other toxic manifestation at low doses in experimental animals or treated patients

Also, investigational drugs need to be treated as hazardous until information is provided which may relax certain procedures and protective measures.

Healthcare workers need to first understand how exposure may occur before they can take appropriate actions to prevent exposure to hazardous drugs. The main routes of exposure are: inhalation of aerosols or dust, absorption through the skin, and ingestion. Exposure to the eyes and injection (accidental needle sticks) may also occur, but to a lesser extent. To minimize exposure, it is recommended to prepare all hazardous drugs in a Class II or Class III biological safety cabinet (BSC), never in a laminar-flow hood. Smoking, drinking, applying cosmetics, and eating where these drugs are prepared, stored, or used also increase the chances of exposure.

A written Hazardous Drug Safety and Health Plan should be developed and maintained in every work place that uses hazardous drugs. The plan would aid in protecting employees from health hazards associated with hazardous drugs and in keeping exposures as low as reasonably achievable. The plan should be readily available for all employees: permanent, temporary, contractors, and trainees. The plan should include, as a minimum, the following elements and indicate specific measures the employer is taking to ensure employee protection:

- Standard operating procedures for workers who handle hazardous drugs
- Decontamination procedures
- Designation of hazardous drug handling areas
- Criteria to determine and implement control measures to reduce employee exposure
- Use of containment devices such as biological safety cabinets
- Inspection and maintenance of control systems, to ensure that protective equipment functions properly
- Procedures for safe removal of contaminated waste
- Provision for information and training
- Identification of extenuating circumstances that require special approval
- Provision for medical examinations
- Designation of a Hazardous Drug Officer and establishment of a Hazardous Drug Committee
- Review and reevaluation of the plan for effectiveness, at least annually

The next article in the series will address safe work habits, biological safety cabinets, and personal protective equipment. It is important to follow health and safety requirements and regulations as specified by the manufacturer of the products, your employers, and local, state, and federal governments. Call OTN if you would like to receive a copy of the OSHA document that is referenced throughout this article.

[1] *OSHA Instruction TED 1.15, September 22, 1995, Office of Science and Technology Assessment.*

The articles in this newsletter are not intended to serve as rules and policies for medical practice. Primary references should be consulted. The reader is encouraged to review the manufacturer's package insert where applicable.

Comments and suggestions are welcome. Address them to: Mary Walsh, Editor, The Network News; Oncology Therapeutics Network; 395 Oyster Point Blvd., Suite 405; South San Francisco, CA 94080.

Printed on recycled paper.

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Important New Indication

NOVANTRONE®
MITOXANTRONE
For Injection Concentrate

ONCOLOGY THERAPEUTICS NETWORK

Shown to Relieve the Pain of Advanced Hormone-Refractory Prostate Cancer (HRPC)

INDICATIONS AND USAGE:

Novantrone (mitoxantrone for injection concentrate) in combination with corticosteroids is indicated as initial chemotherapy for the treatment of patients with pain related to advanced hormone-refractory prostate cancer. Novantrone in combination with other approved drug(s) is also indicated in the initial therapy of acute nonlymphocytic leukemia (ANLL) in adults. *Please refer to full prescribing information.*

DOSAGE AND ADMINISTRATION:
(HORMONE-REFRACTORY PROSTATE CANCER)

Based on data from two phase III comparative trials of Novantrone plus corticosteroids versus corticosteroids alone, the recommended dosage of Novantrone is 12 to 14 mg/m² given as a short intravenous infusion every 21 days.

Contact your Network Representative for current pricing information. OTN is an authorized wholesaler in the Immunex Volume Purchase Agreement (VPA) Program.

PRODUCT SUPPORT:

Novantrone Reimbursement Hotline: 1-800-321-4669
Medical Information: 1-800-466-8639
J Code: ..... J9293 per 5 mg
ICD-9 Code (HRPC): 185

Catalog Number	NDC	Item	Unit Size
902-200	58406-0640-03	Novantrone (2 mg/mL)	20 mg MDV
902-210	58406-0640-05	Novantrone (2 mg/mL)	25 mg MDV
902-220	58406-0640-07	Novantrone (2 mg/mL)	30 mg MDV

Price Match OTN will match any documented offer for Novantrone 20 mg, 25 mg, and 30 mg multidose vials. Simply call with the special offer quoted from another supplier, and we will honor that price immediately.

ProCERT
A REIMBURSEMENT GUARANTEE PROGRAM

BRISTOL-MYERS SQUIBB Oncology

Obtaining reimbursement for chemotherapy drugs is often a time-consuming and laborious task. To assist your practice in this area, Bristol-Myers Squibb Oncology (BMSO) has developed a preauthorization service that is available free of charge called ProCERT.

ProCERT is currently available for TAXOL® (paclitaxel) and any other BMSO product that is a part of the TAXOL regimen.

The service includes:

- Assistance to physicians in offering TAXOL (paclitaxel) injection treatment to their candidate patients
- Free drug replacement guarantee for qualifying unreimbursed claims
- Reduction of financial risk for the physician and patient

For more information, call ProCERT toll-free at 1-888-ProCERT (888-776-2378) from 8:00 am to 5:00 pm Central Time, Monday-Friday or contact your Bristol-Myers Squibb Representative.

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ONCOLOGY THERAPEUTICS NETWORK

New From Schering-Plough!

HSA-FREE INTRON® A (Interferon Alfa-2b, recombinant)

PRODUCT LINE NO LONGER CONTAINS HUMAN SERUM ALBUMIN

- ✓ Elimination of HSA provides a purer solution—a purer interferon
- ✓ Equivalent potency of original formulation
- ✓ New packaging is easier to store
- ✓ Greater ease of administration; less injection volume for some sizes

MORE ABOUT TECHNICAL DIFFERENCES...

Effective February 1, 1997, the Intron A premixed solution formulations will no longer contain human serum albumin. Only the 18 MIU and 50 MIU lyophilized powder presentations will continue to be available in the original formulation; all other powder presentations will be phased out.

OTN will ship the new Intron A HSA-free products once inventory of the original formulation is depleted.

NEW PACKAGES. • HSA-FREE SOLUTIONS

New Cat. #	NDC	Item	Size	Order Qty	Shelf Life
220-151	0085-1184-01	Intron A solution	3 MIU/0.5 mL	6	18 months
220-161	0085-1191-01	Intron A solution	5 MIU/0.5 mL	6	18 months
220-171	0085-1179-01	Intron A solution	10 MIU/1 mL	6	18 months
220-193	0085-1168-01	Intron A solution	18 MIU MDV	6	24 months
220-194	0085-1133-01	Intron A solution	25 MIU MDV	6	24 months

NEW PACKAGES • HSA-FREE SOLUTION PAKS

New Cat. #	NDC	Item	Size	Order Qty	Shelf Life
220-156	TO BE DETERMINED	Intron A solution	3 MIU, Pak 3	1	18 months
220-166	TO BE DETERMINED	Intron A solution	5 MIU, Pak 5	1	18 months
220-174	TO BE DETERMINED	Intron A solution	10 MIU, Pak 10	1	18 months

**Paks include six vials, six syringes, and six alcohol swabs*

LYOPHILIZED POWDER ORIGINAL FORMULATION

Cat. #	NDC	Item	Size	Order Qty	Shelf Life
220-186	0085-1210-01	Intron A powder	18 MIU	6	36 months
220-180	0085-0539-01	Intron A powder	50 MIU	6	24 months

**Powders include one vial of diluent.*

Price Match

New for 1997:
Novantrone®
Zofran®
Neupogen®
Kytril™
Intron® A
Procrit®
Doxorubicin 200 mg

PROCRIT® PHYSICIAN REBATE PROGRAM EXTENDED THROUGH MARCH 1997

Ortho Biotech has extended the Procrit Rebate Program for physician practices through March 31, 1997. Rebates amounts will remain the same at 8% with Usage Guidelines Certification or 6% without. OTN provides the added convenience of offering the rebate directly off your invoice amount to eliminate the paperwork and time delay in claiming the rebate for your practice.

Remember, OTN will match any documented offer for Procrit. Prices to be matched should be requested at the time the order is placed. Prices will be matched for the term of the competitor's offer.

Item	Unit Size	Order Quantity	6% Rebate	Additional 2% Guideline Rebate	WITHOUT Certification Invoice Price/Unit	WITH Certification Invoice Price/Unit
Procrit	10,000 units/mL	6	$5.70	$1.90	$94.00	$92.00
Procrit	10,000 units/mL	25	$5.70	$1.90	$94.00	$92.00
Procrit	20,000 units/2 mL	6	$11.40	$3.80	$186.25	$182.50

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220-174	TO BE DETERMINED	Intron A solution	10 MIU, Pak 10	1	18 months

**Paks include six vials, six syringes, and six alcohol swabs*

LYOPHILIZED POWDER ORIGINAL FORMULATION

Cat. #	NDC	Item	Size	Order Qty	Shelf Life
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220-180	0085-0539-01	Intron A powder	50 MIU	6	24 months

**Powders include one vial of diluent.*

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ONCOLOGY THERAPEUTICS NETWORK

HCPCS CODE CHANGES FOR 1997

The HCFA Common Procedure Coding System (HCPCS) Editorial Panel recently announced coding changes effective for Medicare claims beginning January 1, 1997. Services provided on or after January 1, 1997, should be filed using the 1997 codes. Services rendered in 1996 should continue to be billed with the 1996 codes. HCFA has granted a 90-day grace period to allow physicians to incorporate the changes into their practices. The 1997 charges received prior to April 1, 1997, may be filed with either the 1996 or 1997 codes.

Specific questions about these codes and requests for a complete list of code changes should be directed to your Medicare carrier.

New Zinecard® code approved!

NEW	DELETED	BILLING UNITS	PRODUCT
			Drugs for treatment & supportive care of cancer patients:
J1190		per 250 mg	Injection, dexrazoxane hydrochloride
J1645		per 2500 IU	Injection, dalteparin sodium
J2820		per 50 mcg	Injection, GM-CSF (change in billing units)
J2597		per 1 mcg	Injection, Desmopressin Acetate (change in billing units)
J7310			Ganciclovir, 4.5 mg, long-acting implant
K0453		per 50 mg	Injection, amphotericin B
Q0156			Infusion, albumin (human), 5%, 500 mL
Q0157			Infusion, albumin (human), 25%, 50 mL
	J7140		Prescription drug, oral, dispensed in a physician's office
	J7150		Prescription drug, oral chemotherapy for malignant disease
	J7502	per 250 mg	Cyclosporine, parenteral, amp, IV
	J9010	per 50 mg	Doxorubicin hydrochloride

Q *How do I file claims for doxorubicin hydrochloride in 1997 now that code J9010 is deleted?*

A To file claims for doxorubicin hydrochloride, use code J9000 for all sizes. Billing units are *per 10 mg*.

SOURCEBOOK UPDATE • FALL/WINTER 1996-97 PRODUCT AND PRICING CHANGES

901-1100	Hexalen®	Altretamine, capsules	50 mg	$433.50	▲
201-1120	Taxotere®	Docetaxel for injection	20 mg	$215.25	▲
201-1180	Taxotere®	Docetaxel for injection	80 mg	$861.00	▲
230-1050	Havrix®	Hepatitis A Vaccine, inactivated (1440 ELU/mL)	1 dose/ vial	$57.25	▲
847-1010	Gammar® P	Immune Globulin IV, 5% pwd w/ IV set	1 gm	$32.00	New
941-1100	InFed®	Iron Dextran (100 mg/2 mL)		$28.60	catalog # correction
941-1105	Dexferrum®	Iron Dextran (100 mg/2 mL)		$28.60	
802-1035	Immunex	Methotrexate, powder	20 mg	$12.25	▲
901-2810	Hycamtin™	Topotecan HCL lyoph pwd	4 mg	$426.50	▲
202-5001	Thioplex®	Thiotepa, powder	15 mg	$76.75	▲
920-4100	NeuTrexin™	Trimetrexate Glucuronate, solution (x 25)	25 mg	$50.25	▲
920-4110	NeuTrexin™	Trimetrexate Glucuronate, solution (x 10)	25 mg	$58.50	▲

▲ Reflects a price increase ▼ Reflects a price decrease • Reflects a product description change

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	J7140		Prescription drug, oral, dispensed in a physician's office
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847-010	Gammar® P	Immune Globulin IV, 5% pwd w/ IV set	1 gm	$32.00	New
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901-280	Hycamtin™	Topotecan HCl, lyoph pwd	4 mg	$426.50	▲
202-500	Thioplex®	Thiotepa, powder	15 mg	$76.75	▲
920-400	NeuTrexin™	Trimetrexate Glucuronate, solution (x 25)	25 mg	$50.25	▲
920-410	NeuTrexin™	Trimetrexate Glucuronate, solution (x 10)	25 mg	$58.50	▲

▲ Reflects a price increase ▼ Reflects a price decrease • Reflects a product description change

ONCOLOGY THERAPEUTICS NETWORK

ONCOLOGY DRUG UPDATES

NEW AUTHORS

Beginning with this issue, there is a welcome addition to *The Network News* editorial staff. Oncology New Concepts (ONC) will assume the role of writing and editing our Oncology Drug Updates section.

ONC is a unique new group specializing in oncology educational programs and services. ONC incorporates practice diversity, clinical and administrative knowledge, and a wealth of experience in developing and delivering educational programs. ONC consists of 11 oncology pharmacy specialists who have joined together with a mission of providing educational experiences and training materials that promote success in oncology practices.

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Emory University Hospital

Colleen Gilbert, Pharm.D.
Clinical Associate
Hematology/Oncology
Duke University Medical Center

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MD Anderson Cancer Center

Robert J. Ignoffo, Pharm.D., FASHP
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Nancy C. Phillips, R.Ph.
President, The Phillips Group
Oncology Communications

Jane Pruemer, Pharm.D.
Oncology Clinical Pharmacy Specialist
University of Cincinnati Hospital

Rowena Schwartz, Pharm. D.
Coordinator, Pharmacy Programs
University of Pittsburgh Cancer Institute

Jody Simon, M.S., R.Ph.
Cortex Communications, Inc.
Associate Member
H. Lee Moffitt Cancer Center & Research Institute

MEDICATION ERRORS ALERT FOR ACCIDENTAL OVERDOSES

Irinotecan (Camptosar,® formerly CPT-11, Pharmacia & Upjohn)

Institute for Safe Medication Practices (ISMP) has learned of several accidental overdoses of Camptosar (irinotecan hydrochloride injection, CPT-11) that have occurred since its launch in July 1996. The labeling for Camptosar, an antineoplastic agent, features "20 mg/mL" in large letters. Some practitioners preparing doses have incorrectly assumed that is the total amount of drug contained in the vial. The vials contain 5 mL or 100 mg, but the "5 mL" notation appears in much smaller print. If your facility uses Camptosar, alert all individuals who prepare doses. In addition, affix auxiliary labels to each vial to clarify that they contain 100 mg, not 20 mg. Prepared doses of antineoplastics should be checked independently by at least two health professionals. Pharmacia and Upjohn, the manufacturer, is in the process of changing the label to read 100 mg/5 mL. This labeling should be available in the near future.

FDA NEW DRUG APPROVALS

Mitoxantrone (Novantrone,® Immunex Corp.) for Hormone-Refractory Prostate Cancer

On Nov. 12, 1996, the FDA granted approval of mitoxantrone for prostate cancer patients who have failed hormone therapy. Mitoxantrone in combination with corticosteroids is indicated as initial chemotherapy for the treatment of patients with pain related to advanced hormone-refractory prostate cancer. Mitoxantrone in combination with other approved drug(s) is also indicated in the initial therapy of acute nonlymphocytic leukemia (ANLL) in adults.

Please refer to full prescribing information.

ONCOLOGY THERAPEUTICS NETWORK

ONCOLOGY DRUG UPDATES

NEW AUTHORS

Beginning with this issue, there is a welcome addition to *The Network News* editorial staff. Oncology New Concepts (ONC) will assume the role of writing and editing our Oncology Drug Updates section.

ONC is a unique new group specializing in oncology educational programs and services. ONC incorporates practice diversity, clinical and administrative knowledge, and a wealth of experience in developing and delivering educational programs. ONC consists of 11 oncology pharmacy specialists who have joined together with a mission of providing educational experiences and training materials that promote success in oncology practices.

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Associate Member
H. Lee Moffitt Cancer Center & Research Institute

MEDICATION ERRORS ALERT FOR ACCIDENTAL OVERDOSES

Irinotecan (Camptosar,® formerly CPT-11, Pharmacia & Upjohn)

Institute for Safe Medication Practices (ISMP) has learned of several accidental overdoses of Camptosar (irinotecan hydrochloride injection, CPT-11) that have occurred since its launch in July 1996. The labeling for Camptosar, an antineoplastic agent, features "20 mg/mL" in large letters. Some practitioners preparing doses have incorrectly assumed that is the total amount of drug contained in the vial. The vials contain 5 mL or 100 mg, but the "5 mL" notation appears in much smaller print. If your facility uses Camptosar, alert all individuals who prepare doses. In addition, affix auxiliary labels to each vial to clarify that they contain 100 mg, not 20 mg. Prepared doses of antineoplastics should be checked independently by at least two health professionals. Pharmacia and Upjohn, the manufacturer, is in the process of changing the label to read 100 mg/5 mL. This labeling should be available in the near future.

FDA NEW DRUG APPROVALS

Mitoxantrone (Novantrone,® Immunex Corp.) for Hormone-Refractory Prostate Cancer

On Nov. 12, 1996, the FDA granted approval of mitoxantrone for prostate cancer patients who have failed hormone therapy. Mitoxantrone in combination with corticosteroids is indicated as initial chemotherapy for the treatment of patients with pain related to advanced hormone-refractory prostate cancer. Mitoxantrone in combination with other approved drug(s) is also indicated in the initial therapy of acute nonlymphocytic leukemia (ANLL) in adults.

Please refer to full prescribing information.

Amphotericin B Cholesteryl Sulfate Complex (Amphotec®, Sequus) for Invasive Aspergillosis

In November 1996, the FDA granted approval of amphotericin B cholesteryl sulfate complex (Amphotec) as therapy for invasive aspergillosis in patients where renal impairment or unacceptable toxicity precludes the use of amphotericin B deoxycholate in effective doses. Amphotec is also approved in patients with invasive aspergillosis where prior amphotericin B deoxycholate therapy has failed. This approval was based on data from 5 non-comparative open label studies.

One hundred sixty-one patients with proven or probable aspergillus infections were treated with amphotericin B cholesteryl sulfate complex. Identifiable reasons for use included failure to respond to amphotericin B deoxycholate (n = 49), development of nephrotoxicity while receiving amphotericin B deoxycholate (n = 62), preexisting renal impairment (n = 25), or other reasons not identified (n = 25). The primary site of infection was the lung (73%), followed by the sinuses (9%).

The 49 patients who were enrolled because of failure to respond to standard amphotericin B were defined by their individual physician as being refractory based on overall clinical judgment after receiving either a minimum of 7 days of therapy or a minimum total dose of 15 mg/kg. Nephrotoxicity was defined by one of three ways: a serum creatinine that had doubled from baseline, an increase of ≥ 1.5 mg/dL, or an increase to ≥ 2.0 mg/dL. Response rates utilized were defined previously by the Mycosis Study Group.

Eighty of the 161 patients were evaluable for response. The median daily dose was 4 mg/kg/day and the cumulative median dose was 6.3 g. There was a complete response in 9 patients and a partial response in 28 patients, for an overall response rate of 46% *(refer to Table 1)*.

TABLE 1. RESPONSE RATES TO AMPHOTEC FOR ASPERGILLUS INFECTIONS

Patient Group	Number Treated	Complete Response	Partial Response	Total Response	Response Rate
Amphotericin B failure	28	3	9	12	43%
Nephrotoxicity	36	5	12	17	47%
Preexisting renal impairment	16	1	7	8	50%
Total	80	9	28	37	46%

Those patients who were treated with Amphotec where their serum creatinine was ≥ 2.0 mg/dL experienced a decline in serum creatinine during treatment. This occurred in 12 to 20% of all users.

The recommended dose of Amphotec for both adults and children is 3-4 mg/kg/day. There is an allowance for a dose increase to 6 mg/kg/day in patients who do not improve or if there is evidence of progression of the fungal infection. Amphotec is given as an intravenous infusion in 5% dextrose in water at a rate of 1 mg/kg/hour. The manufacturer recommends a test dose prior to the first therapeutic dose. In patients tolerating the infusion well, the infusion rate may be shortened to 2 hours. Approximately 35% of patients experienced infusion-related toxicities of chills and fever, usually with the first dose. This dropped to 14% by the seventh dose. Acute infusion-related reactions can be managed by pretreatment with antihistamines and corticosteroids. Monitoring of renal and hepatic function and serum electrolytes is recommended.

A randomized study comparing Amphotec with amphotericin B deoxycholate for therapy of invasive aspergillosis is currently ongoing.

FDA NEW DRUG APPROVALS

Liposomal Amphotericin Products: A Safer Alternative

Liposomes are delivery vehicles which allow for the administration of agents to better target drug delivery. These are microvesicles consisting of water surrounded by bilayered phospholipid membranes. The biodegradable phospholipid molecules are made up of a hydrophilic head attached to a hydrophobic tail. When placed in water, they arrange themselves into bilayered membranes which ultimately form the microvesicles. It is possible to alter the size, charge, permeability, and even number of bilayered membranes in a liposome.

The pharmacokinetics and pharmacodynamics of liposomally-encapsulated drugs usually vary greatly from the non-encapsulated drug. These differences have been utilized to improve the therapeutic index of many drugs. It has been shown that drugs incorporated into liposomes are selectively taken up into the reticuloendothelial system and concentrated in the liver, spleen, lungs, and lymph nodes. In addition, monocytes and macrophages easily ingest liposomes, which may be advantageous in the management of various infections.

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The 49 patients who were enrolled because of failure to respond to standard amphotericin B were defined by their individual physician as being refractory based on overall clinical judgment after receiving either a minimum of 7 days of therapy or a minimum total dose of 15 mg/kg. Nephrotoxicity was defined by one of three ways: a serum creatinine that had doubled from baseline, an increase of ≥ 1.5 mg/dL, or an increase to ≥ 2.0 mg/dL. Response rates utilized were defined previously by the Mycosis Study Group.

Eighty of the 161 patients were evaluable for response. The median daily dose was 4 mg/kg/day and the cumulative median dose was 6.3 g. There was a complete response in 9 patients and a partial response in 28 patients, for an overall response rate of 46% *(refer to Table 1)*.

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ONCOLOGY THERAPEUTICS NETWORK

ONCOLOGY DRUG UPDATES

NEW FDA INDICATION

Amphotericin B Lipid Complex Injection (Abelcet®, The Liposome Component)

Liposomal amphotericin B lipid complex (Abelcet®) was originally FDA-approved for the treatment of aspergillosis in patients who are refractory to, or intolerant of, conventional amphotericin B therapy. In October 1996, the FDA approved the expansion of the indication to include other fungal infections. Now, Abelcet is indicated for the treatment of invasive fungal infections in patients who are refractory to or intolerant of conventional amphotericin therapy.

The new indication was based upon data involving 473 patients from three open-label studies. These patients had invasive fungal infections and were deemed by their physicians to be refractory to or intolerant of conventional amphotericin B or had preexisting nephrotoxicity. Refractory patients had received a minimum dose of 500 mg of amphotericin B. Nephrotoxicity was defined as a serum creatinine that had increased to ≥ 2.5 mg/dL in adults and > 1.5 mg/dL in children, or a creatinine clearance < 25 mg/min while receiving conventional amphotericin B.

Results of the trial were available for 282 evaluable patients (191 patients were excluded based upon unconfirmed diagnoses). The following types of fungal infections were identified and treated: aspergillosis (n = 111), candidiasis (n = 87), zygomycosis (n = 25), cryptococcosis (n = 16), and fusariosis (n = 11). Some patients were successfully treated; however, overall response rates have not been reported.

Revision of Dosing Guidelines for Anticancer Drugs: Is Dosing According To Body Surface Area Appropriate?

The *Journal of Clinical Oncology* recently published a review article commenting on the current practice of dosage calculation of anticancer drugs and proposed an alternative method to be considered to individualize doses of these agents in cancer patients. The importance of dosing chemotherapy appropriately to achieve desired outcomes was emphasized, and the standard method of utilizing body surface area (BSA) to calculate these doses has been questioned.

Oncologists have long recognized the need to individualize the doses of chemotherapeutic agents for two major reasons: First, it has been known that the metabolism and elimination of drugs vary considerably between individual patients. The resultant pharmacokinetic profile would be different between patients, resulting in different effects. Second, oncologists have known that these agents have a narrow therapeutic index, having a low threshold for many toxicities. Reducing doses to avoid toxicities may reduce tumor responses for breast cancer, testicular cancer, and lymphomas.

The current standard of practice has utilized BSA dosing for the majority of antineoplastic agents. BSA has been shown to correlate with basal metabolic rate, blood volume, and glomerular filtration rate (GFR). It has been used to allow an estimation of human doses from experimental animal studies. However, several investigators, including Grochow, et al, have determined that there is no good correlation between BSA and the pharmacokinetic measurements for a number of anticancer drugs in various phase II studies. Agents such as etoposide, ifosfamide, paclitaxel, and carboplatin were found to have no or minimal correlation of BSA with pharmacokinetic parameters. Today, most clinicians are aware of the data published by Calvert, et al, showing that GFR can predict carboplatin AUC, independent of BSA, and the positive relationship between tumor response and AUC of carboplatin. This dosing method is now becoming the standard of practice for the use of carboplatin.

Most interestingly, this review has pointed out that the use of BSA-based dose calculation may bring into question previous clinical studies exploring a dose-response relationship for chemotherapy. It has been suggested that pharmacokinetic monitoring be used instead of BSA dosing for antineoplastic agents. Data generated by Evans and colleagues in pediatric leukemia patients suggest that pharmacokinetically-guided dosing resulted in positive correlations for drug toxicity rather than tumor response. This may be explained by tumor cell heterogeneity. In addition, it is recognized that there are problems with the clinical application of pharmacokinetic parameter dosing (e.g., number and timing of blood samples, as well as expense).

A new method of dosing antineoplastic agents has been suggested using three steps: prime dose, modified dose, and toxicity-adjusted dose (PMT dosing). Prime dose has been defined as the fixed dose of a drug used alone or in combination, derived from phase I/II studies. Modified dose is an adjustment of the prime dose before being administered, based on guidelines that predict the drug-handling ability of the patient (pharmacokinetically-guided dosing). Finally, adjustments are made on subsequent doses based upon resultant or expected toxicities. Toxicity-based dosing has been used to select the conventional dose of most antineoplastic agents. However, it should be noted that there is no easy measure of under dosing in the absence of toxicity.

This review article concluded that basing the dose of most anticancer agents on BSA measurement is not appropriate and that pharmacokinetic applications should be applied. Since there is good correlation between these parameters and the toxicities and tumor response for many antineoplastics, pharmacokinetic trials are crucial to future dosing of these drugs. The author has clearly brought to attention the current inadequacies of BSA-based dosing, and has challenged oncologists to consider a more scientific approach to dosing cancer patients.

(J Clin Oncol. 1996;14(9):2590-2611.)

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AVERAGE WHOLESALE PRICES AND 1996 HCPCS CODES

As a reimbursement resource, the average wholesale prices (AWPs) and HCPCS codes are listed for drugs commonly used in cancer treatment. Products are listed alphabetically by their generic name. The AWPs are obtained from the *1996 Red Book* and the *December 1996 Red Book Update*. For drugs that have multiple manufacturers, the AWP for the product that the Network most commonly stocks is listed. For ease of use, we list the AWP information in the first three columns and the billing code and units in the right two columns. Please refer to the *Fall/Winter 1996-1997 Sourcebook* for a complete listing of 1996 HCPCS codes.

PRODUCT	VIAL SIZE	NDC	DECEMBER AWP/VIAL	'96 HCPCS CODE	BILLING UNITS
Proleukin®					
Aldesleukin, pwd (Interleukin-2)	22 MIU	53905-0991-01	415.00	J9015	per 22 MIU
Ethyol®					
Amifostine	500 mg	17314-3123-01	312.00	J3490*	
Fungizone®					
Amphotericin B Oral Suspension	24 mL	00087-1162-10	26.25	J9999*/J3490*	
Blenoxane®					
Bleomycin sulfate, pwd	15 units	00015-3010-20	304.60	J9040	per 15 units
	30 units	00015-3063-01	609.20	J9040	per 15 units
Paraplatin®					
• Carboplatin, pwd	50 mg	00015-3213-30	88.59	J9045	per 50 mg
•	150 mg	00015-3214-30	265.71	J9045	per 50 mg
•	450 mg	00015-3215-30	797.15	J9045	per 50 mg
BiCNU®					
• Carmustine, pwd w/diluent	100 mg	00015-3012-38	88.94	J9050	per 100 mg
Tagamet®					
Cimetidine HCl, sol (150 mg/mL)	300 mg	00108-5017-16	3.96	J9999*/J3490*	
Platinol®-AQ					
• Cisplatin, sol (1 mg/mL)	50 mg MDV	00015-3220-22	184.84	J9062	per 50 mg
•	100 mg MDV	00015-3221-22	369.65	J9062	per 50 mg
Leustatin®					
Cladribine, sol (1 mg/mL)	10 mg	59676-0201-01	480.00	J9065	per 1 mg
Lyophilized Cytoxan®					
Cyclophosphamide, lyophilized	100 mg	00015-0539-41	6.45	J9093	per 100 mg
	200 mg	00015-0546-41	12.25	J9094	per 200 mg
	500 mg	00015-0547-41	25.73	J9095	per 500 mg
	1 g	00015-0548-41	51.43	J9096	per 1 g
	2 g	00015-0549-41	102.89	J9097	per 2 g
Cytoxan® Tablets					
• Cyclophosphamide, tablets, 25 mg	100 per bottle	00015-0504-01	173.23	J8530	25 mg
• Cyclophosphamide, tablets, 50 mg	100 per bottle	00015-0503-01	317.91	J8530	25 mg
• Cyclophosphamide, tablets, 50 mg	1,000 per bottle	00015-0503-02	3,077.98	J8530	25 mg
Cytarabine, pwd	100 mg	00364-2467-53	6.00	J9100	per 100 mg
	100 mg	55390-0131-10	6.25	J9100	per 100 mg
	500 mg	00364-2468-54	23.06	J9110	per 500 mg
	500 mg	55390-0132-10	25.00	J9110	per 500 mg
	1 g	55390-0133-01	50.00	J9110	per 500 mg
	2 g	55390-0134-01	98.90	J9110	per 500 mg
Dacarbazine, pwd	100 mg	00026-8151-10	33.83	J9130	per 100 mg
	200 mg	00026-8151-20	72.23	J9140	per 200 mg
DaunoXome®					
Daunorubicin citrate liposome inj. (1 mg/mL)	50 mg	56146-0301-01	268.75	J9999*/J3490*	
Cerubidine®					
Daunorubicin HCl, pwd	20 mg	55390-0281-10	168.50	J9150	per 10 mg
DDAVP®					
Desmopressin Acetate, sol (4 mcg/mL)	1 mL	00075-2451-01	24.54	J2597	per 4 mcg
Dexamethasone, sol (10 mg/mL)	100 mg MDV	00364-2360-54	12.00	J1100	up to 4 mg/mL
Dexamethasone, sol (4 mg/mL)	20 mg MDV	00517-4905-25	2.39	J1100	up to 4 mg/mL
	120 mg MDV	00517-4930-25	7.84	J1100	up to 4 mg/mL
Zinecard®					
Dexrazoxane for injection	250 mg	00013-8715-62	134.38	J3490*	
	500 mg	00013-8725-69	268.75	J3490*	
Diazepam, sol (5 mg/mL)	10 mg	00364-0825-48	3.43	J3360	up to 5 mg
	50 mg	00364-0825-54	13.35	J3360	up to 5 mg
Diphenhydramine HCl, sol (10 mg/mL)	300 mg	00364-6530-56	3.18	J1200	up to 50 mg
Diphenhydramine HCl, sol (50 mg/mL)	500 mg MDV	00364-6531-54	4.98	J1200	up to 50 mg
	50 mg	00641-0376-25	0.53	J1200	up to 50 mg

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Fungizone®					
Amphotericin B Oral Suspension	24 ml	00087-1162-10	26.25	J9999*/J3490[1]	
Blenoxane®					
Bleomycin sulfate, pwd	15 units	00015-3010-20	304.60	J9040	per 15 units
	30 units	00015-3063-01	609.20	J9040	per 15 units
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PlatinoP-AQ					
• Cisplatin, sol (1 mg/mL)	50 mg MDV	00015-3220-22	104.84	J9062	per 50 mg
•	100 mg MDV	00015-3221-22	369.65	J9062	per 50 mg
Leustatin®					
Cladribine, sol (1 mg/mL)	10 mg	59676-0201-01	480.00	J9065	per 1 mg
Lyophilized Cytoxan®					
Cyclophosphamide, lyophilized	100 mg	00015-0539-41	6.45	J9093	per 100 mg
	200 mg	00015-0546-41	12.25	J9094	per 200 mg
	500 mg	00015-0547-41	25.71	J9095	per 500 mg
	1 g	00015-0548-41	51.43	J9096	per 1 g
	2 g	00015-0549-41	102.89	J9097	per 2 g
Cytoxan® Tablets					
• Cyclophosphamide, tablets, 25 mg	100 per bottle	00015-0504-01	173.23	J8530	25 mg
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• Cyclophosphamide, tablets, 50 mg	1,000 per bottle	00015-0503-02	3,027.90	J8530	25 mg
Cytarabine, pwd	100 mg	00364-2467-53	6.00	J9100	per 100 mg
	100 mg	55390-0131-10	6.25	J9100	per 100 mg
	500 mg	00364-2468-54	23.06	J9110	per 500 mg
	500 mg	55390-0132-10	25.00	J9110	per 500 mg
	1 g	55390-0133-01	50.00	J9110	per 500 mg
	2 g	55390-0134-01	98.90	J9110	per 500 mg
Dacarbazine, pwd	100 mg	00026-8151-10	13.83	J9130	per 100 mg
	200 mg	00026-8151-20	22.23	J9140	per 200 mg
DaunoXome®					
Daunorubicin citrate liposome inj. (1 mg/mL)	50 mg	56146-0301-01	268.75	J9999*/J3490[1]	
Cerubidine®					
Daunorubicin HCl, pwd	20 mg	55390-0201-10	168.50	J9150	per 10 mg
DDAVP®					
Desmopressin Acetate, sol (4 mcg/mL)	1 mL	00075-2451-01	24.54	J2597	per 4 mcg
Dexamethasone, sol (10 mg/mL)	100 mg MDV	00364-2160-54	12.00	J1100	up to 4 mg/mL
Dexamethasone, sol (4 mg/mL)	20 mg MDV	00517-4905-25	2.19	J1100	up to 4 mg/mL
	120 mg MDV	00517-4930-25	7.84	J1100	up to 4 mg/mL
Zinecard®					
Dexrazoxane for injection	250 mg	00013-8715-62	134.38	J3490[1]	
	500 mg	00013-8725-89	268.75	J3490[1]	
Diazepam, sol (5 mg/mL)	10 mg	00364-0825-48	3.43	J3360	up to 5 mg
	50 mg	00364-0825-54	13.35	J3360	up to 5 mg
Diphenhydramine HCl, sol (10 mg/mL)	300 mg	00364-6530-56	5.18	J1200	up to 50 mg
Diphenhydramine HCl, sol (50 mg/mL)	500 mg MDV	00364-6531-54	6.90	J1200	up to 50 mg
	50 mg	00641-0376-25	0.63	J1200	up to 50 mg

REIMBURSEMENT

PRODUCT	VIAL SIZE	NDC	DECEMBER AWP/VIAL	'96 HCPCS CODE	BILLING UNITS
Taxotere®					
• Docetaxel for injection	20 mg	00075-8001-20	257.92	J9999*	
•	80 mg	00075-8001-80	1,031.68	J9999*	
Rubex®					
Doxorubicin, pwd	50 mg	00015-3352-22	197.15	J9010	per 50 mg
	100 mg	00015-3353-22	394.29	J9010	per 50 mg
Bedford Laboratories					
Doxorubicin, pwd	10 mg	55390-0231-10	45.08	J9000	per 10 mg
	20 mg	55390-0232-10	90.16	J9000	per 10 mg
	50 mg	55390-0233-01	225.40	J9010	per 50 mg
Doxorubicin, sol (2 mg/mL)	10 mg	55390-0235-10	47.35	J9000	per 10 mg
	20 mg	55390-0236-10	94.70	J9000	per 10 mg
	50 mg	55390-0237-01	236.74	J9010	per 50 mg
	200 mg MDV	55390-0238-01	945.98	J9010	per 50 mg
Adriamycin™					
Doxorubicin, RDF pwd	10 mg	00013-1086-91	46.00	J9000	per 10 mg
	20 mg	00013-1096-94	92.00	J9000	per 10 mg
	50 mg	00013-1106-79	230.00	J9010	per 50 mg
	150 mg MDV	00013-1116-83	676.19	J9010	per 50 mg
Doxorubicin, pfs sol (2 mg/mL)	10 mg	00013-1136-91	48.31	J9000	per 10 mg
	20 mg	00013-1146-94	96.63	J9000	per 10 mg
	50 mg	00013-1156-79	241.56	J9010	per 50 mg
	75 mg	00013-1176-87	362.35	J9010	per 50 mg
	200 mg MDV	00013-1166-83	946.94	J9010	per 50 mg
DOXIL®					
Doxorubicin, HCl liposome inj. (2mg/mL)	20 mg	61471-0295-12	606.25	J9999*	
Procrit®					
Epoetin alfa	2,000 units/mL	59676-0302-01	24.00	Q0136*	1,000 units
	3,000 units/mL	59676-0303-01	36.00	Q0136*	1,000 units
	4,000 units/mL	59676-0304-01	48.00	Q0136*	1,000 units
	10,000 units/mL	59676-0310-01	114.00	Q0136*	1,000 units
	20,000 units/2 mL	59676-0312-01	228.00	Q0136*	1,000 units
VePesid® Capsules					
• Etoposide, capsules, 50 mg	20 per box	00015-3091-45	751.60	J8560	50 mg
VePesid® For Injection					
Etoposide, injection (20 mg/mL)	100 mg MDV	00015-3095-20	136.49	J9182	per 100 mg
	150 mg MDV	00015-3084-20	204.74	J9182	per 100 mg
	500 mg MDV	00015-3061-20	665.38	J9182	per 100 mg
	1 g MDV	00015-3062-20	1,296.64	J9182	per 100 mg
Etopophos®					
Etoposide phosphate for injection	100 mg	00015-3404-20	124.14	J9999*	
Fludara®					
Fludarabine phosphate, pwd	50 mg	50419-0511-06	188.04	J9185	per 50 mg
Fluorouracil, sol (50 mg/mL)	500 mg	39769-0012-10	3.75	J9190	per 500 mg
	2,500 mg	00013-1046-94	7.69	J9190	per 500 mg
	5,000 mg	39769-0012-90	25.00	J9190	per 500 mg
Neupogen®					
G-CSF (Filgrastim), sol (0.3 mg/mL)	300 mcg	55513-0347-10	156.10	J1440	per 300 mcg
	480 mcg	55513-0348-10	248.60	J1441	per 480 mcg
Gemzar®					
Gemcitabine HCl	200 mg	00002-7501-01	63.66	J9999*	
Gemcitabine HCl	1 g	00002-7502-01	318.29	J9999*	
Leukine®					
GM-CSF (Sargramostim), lyophilized	250 mcg	58406-0002-33	117.79	J2820	per 250 mcg
	500 mcg	58406-0001-35	221.71	J2820	per 250 mcg
Goserelin acetate, implant	3.6 mg syringe	00310-0960-36	383.65	J9202	per 3.6 mg
	10.8 mg syringe	00310-0961-30	1,208.49	J9202	per 3.6 mg
Kytril™					
Granisetron HCl, sol (1 mg/mL)	1 mL	00029-4149-01	173.95	J1625	per 1 mg
Ifex®					
Ifosfamide	1 g	00015-0556-41	114.68	J9208	per 1 g
	3 g	00015-0557-41	344.04	J9208	per 1 g
Ifex®/Mesnex™					
• Ifosfamide (10 x 1 g)/mesna (10 x 1 g MDV)	Combo-Pack	00015-3554-27	2,004.70	J9208/J9209	
• Ifosfamide (2 x 3 g)/mesna (6 x 1 g MDV)	Combo-Pack	00015-3564-15	1,202.75	J9208/J9209	
• Ifosfamide (5 x 1 g)/mesna (3 x 1 g MDV)	Combo-Pack	00015-3556-26	829.63	J9208/J9209	
Venoglobulin I					
Immune globulin intravenous, 5% pwd w/IV set	2.5 g	49669-1602-01	152.05	J1561	per 500 mg
	5 g	49669-1603-01	304.10	J1561	per 500 mg
	10 g	49669-1604-01	608.20	J1561	per 500 mg
Venoglobulin S					
• Immune globulin intravenous, 5% sol w/IV set	2.5 g	49669-1612-01	225.00	J1561	per 500 mg
•	5 g	49669-1613-01	450.00	J1561	per 500 mg
•	10 g	49669-1614-01	900.00	J1561	per 500 mg

ONCOLOGY THERAPEUTICS NETWORK

REIMBURSEMENT

PRODUCT	VIAL SIZE	NDC	DECEMBER AWP/VIAL	'96 HCPCS CODE	BILLING UNITS
Taxotere®					
• Docetaxel for injection	20 mg	00075-8001-20	257.92	J9999*	
•	80 mg	00075-8001-80	1,031.68	J9999*	
Rubex®					
Doxorubicin, pwd	50 mg	00015-3352-22	197.15	J9010	per 50 mg
	100 mg	00015-3353-22	394.29	J9010	per 50 mg
Bedford Laboratories					
Doxorubicin, pwd	10 mg	55390-0231-10	45.08	J9000	per 10 mg
	20 mg	55390-0232-10	90.16	J9000	per 10 mg
	50 mg	55390-0233-01	225.40	J9010	per 50 mg
Doxorubicin, sol (2 mg/mL)	10 mg	55390-0235-10	47.35	J9000	per 10 mg
	20 mg	55390-0236-10	94.70	J9000	per 10 mg
	50 mg	55390-0237-01	236.74	J9010	per 50 mg
	200 mg MDV	55390-0238-01	945.98	J9010	per 50 mg
Adriamycin PFS®					
Doxorubicin, RDF pwd	10 mg	00013-1086-91	46.00	J9000	per 10 mg
	20 mg	00013-1096-94	92.00	J9000	per 10 mg
	50 mg	00013-1106-79	230.00	J9010	per 50 mg
	150 mg MDV	00013-1116-83	676.19	J9010	per 50 mg
Doxorubicin, pfs sol (2 mg/mL)	10 mg	00013-1136-91	48.31	J9000	per 10 mg
	20 mg	00013-1146-94	96.63	J9000	per 10 mg
	50 mg	00013-1156-79	241.56	J9010	per 50 mg
	75 mg	00013-1176-87	362.35	J9010	per 50 mg
	200 mg MDV	00013-1166-83	946.94	J9010	per 50 mg
DOXIL®					
Doxorubicin, HCl liposome inj. (2mg/mL)	20 mg	61471-0295-12	606.25	J9999*	
Procrit®					
Epoetin alfa	2,000 units/mL	59676-0302-01	24.00	Q0136*	1,000 units
	3,000 units/mL	59676-0303-01	36.00	Q0136*	1,000 units
	4,000 units/mL	59676-0304-01	48.00	Q0136*	1,000 units
	10,000 units/mL	59676-0310-01	114.00	Q0136*	1,000 units
	20,000 units/2 mL	59676-0312-01	228.00	Q0136*	1,000 units
VePesid® Capsules					
• Etoposide, capsules, 50 mg	20 per box	00015-3091-45	751.60	J8560	50 mg
VePesid® For Injection					
Etoposide, injection (20 mg/mL)	100 mg MDV	00015-3095-20	136.49	J9182	per 100 mg
	150 mg MDV	00015-3084-20	204.74	J9182	per 100 mg
	500 mg MDV	00015-3061-20	665.38	J9182	per 100 mg
	1 g MDV	00015-3062-20	1,296.64	J9182	per 100 mg
Etopophos®					
Etoposide phosphate for injection	100 mg	00015-3404-20	124.14	J9999*	
Fludara®					
Fludarabine phosphate, pwd	50 mg	50419-051.1-06	188.04	J9185	per 50 mg
Fluorouracil, sol (50 mg/mL)	500 mg	39769-0012-10	3.75	J9190	per 500 mg
	2,500 mg	00013-1046-94	7.69	J9190	per 500 mg
	5,000 mg	39769-0012-90	25.00	J9190	per 500 mg
Neupogen®					
G-CSF (Filgrastim), sol (0.3 mg/mL)	300 mcg	55513-0347-10	156.10	J1440	per 300 mcg
	480 mcg	55513-0348-10	248.60	J1441	per 480 mcg
Gemzar®					
Gemcitabine HCl	200 mg	00002-7501-01	63.66	J9999*	
Gemcitabine HCl	1 g	00002-7502-01	318.29	J9999*	
Leukine®					
GM-CSF (Sargramostim), lyophilized	250 mcg	58406-0002-33	117.79	J2820	per 250 mcg
	500 mcg	58406-0001-35	221.71	J2820	per 250 mcg
Goserelin acetate, implant	3.6 mg syringe	00310-0960-36	383.65	J9202	per 3.6 mg
	10.8 mg syringe	00310-0961-30	1,208.49	J9202	per 3.6 mg
Kytril™					
Granisetron HCl, sol (1 mg/mL)	1 mL	00029-4149-01	173.95	J1625	per 1 mg
Ifex®					
Ifosfamide	1 g	00015-0556-41	114.68	J9208	per 1 g
	3 g	00015-0557-41	344.04	J9208	per 1 g
Ifex®/Mesnex™					
• Ifosfamide (10 x 1 g)/mesna (10 x 1 g MDV)	Combo-Pack	00015-3554-27	2,004.20	J9208/J9209	
• Ifosfamide (2 x 3 g)/mesna (6 x 1 g MDV)	Combo-Pack	00015-3564-15	1,202.75	J9208/J9209	
• Ifosfamide (5 x 1 g)/mesna (3 x 1 g MDV)	Combo-Pack	00015-3556-26	829.63	J9208/J9209	
Venoglobulin I					
Immune globulin intravenous, 5% pwd w/IV set	2.5 g	49669-1602-01	152.05	J1561	per 500 mg
	5 g	49669-1603-01	304.10	J1561	per 500 mg
	10 g	49669-1604-01	608.20	J1561	per 500 mg
Venoglobulin S					
• Immune globulin intravenous, 5% sol w/IV set	2.5 g	49669-1612-01	225.00	J1561	per 500 mg
•	5 g	49669-1613-01	450.00	J1561	per 500 mg
•	10 g	49669-1614-01	900.00	J1561	per 500 mg

REIMBURSEMENT

PRODUCT	VIAL SIZE	NDC	DECEMBER AWP/VIAL	'96 HCPCS CODE	BILLING UNITS
Venoglobulin S (continued)					
• Immune globulin intravenous, 10% sol w/IV set	5 g	49669-1622-01	475.00	J1562	per 5 g
•	10 g	49669-1623-01	950.00	J1562	per 5 g
•	20 g	49669-1624-01	1,900.00	J1562	per 5 g
Immune globulin intravenous, 10% sol w/IV set	1 g	00192-0649-12	75.00	J1561	per 500 mg
	5 g	00192-0649-20	375.00	J1562	per 5 g
	10 g	00192-0649-71	750.00	J1562	per 5 g
	20 g	00192-0649-24	1,500.00	J1562	per 5 g
Immune globulin intravenous, 5%–10% w/IV set	2.5 g	52769-0471-72	145.00	J1561 or J1562	
	5 g	52769-0471-75	290.00	J1561 or J1562	
	10 g	52769-0471-80	580.00	J1561 or J1562	
Rho D immune globulin intravenous	300 mcg	60492-0082-01	235.00	J3490*/J9999*	
Intron® A					
Interferon alfa 2b, pwd	3 MIU	00085-0647-03	32.93	J9214	per 1 MIU
	3 MIU syringe	00085-0647-04	32.93	J9214	per 1 MIU
	3 MIU PAK	00085-0647-05	32.93	J9214	per 1 MIU
	5 MIU	00085-0120-02	54.88	J9214	per 1 MIU
	5 MIU PAK	00085-0120-05	54.88	J9214	per 1 MIU
	10 MIU	00085-0571-02	109.75	J9214	per 1 MIU
	10 MIU PAK	00085-0571-06	109.75	J9214	per 1 MIU
	18 MIU	00085-0110-01	197.54	J9214	per 1 MIU
	25 MIU	00085-0285-02	274.39	J9214	per 1 MIU
	50 MIU	00085-0539-01	548.75	J9214	per 1 MIU
Interferon alfa 2b, sol (5 MIU/mL)	10 MIU	00085-0923-01	109.75	J9214	per 1 MIU
Interferon alfa 2b, sol (6 MIU/mL)	18 MIU MDV	00085-0953-01	197.54	J9214	per 1 MIU
Interferon alfa 2b, sol (5 MIU/mL)	25 MIU	00085-0769-01	274.39	J9214	per 1 MIU
Roferon® A					
Interferon alfa 2a, pwd w/3 mL diluent	18 MIU	00004-1993-09	197.55	J9213	per 3 MIU
Interferon alfa 2a, sol (3 MIU/mL)	3 MIU	00004-1987-09	32.94	J9213	per 3 MIU
Interferon alfa 2a, sol (10 MIU/mL)	9 MIU	00004-2010-09	92.76	J9213	per 3 MIU
Interferon alfa 2a, sol (6 MIU/mL)	18 MIU	00004-1988-09	197.55	J9213	per 3 MIU
Interferon alfa 2a, sol (36 MIU/mL)	36 MIU	00004-2005-09	395.14	J9213	per 3 MIU
Camptosar®					
Irinotecan HCl injection, CPT-11 (20 mg/mL)	5 mL	00009-7529-01	493.75	J9999*	
Leucovorin, pwd	50 mg	55390-0851-10	18.44	J0640	per 50 mg
	50 mg	58406-0621-05	21.53	J0640	per 50 mg
	100 mg	55390-0852-10	35.00	J0640	per 50 mg
	100 mg	58406-0622-06	39.41	J0640	per 50 mg
	200 mg	55390-0853-01	78.00	J0640	per 50 mg
	350 mg	58406-0623-07	137.94	J0640	per 50 mg
Lupron®					
Leuprolide acetate depot, susp. (7.5 mg/mL)	7.5 mg	00300-3629-01	515.63	J9217	per 7.5 mg
	22.5 mg	00300-3336-01	1,546.89	J9217	per 7.5 mg
Lorazepam, sol (2 mg/mL)	2 mg MDV	00008-0581-04	12.01	J2060	per 2 mg
Lorazepam, sol (2 mg/mL)	20 mg MDV	00008-0581-01	107.00	J2060	per 2 mg
Lorazepam, sol (4 mg/mL)	40 mg MDV	00008-0570-01	133.74	J2060	per 2 mg
Lorazepam, sol (2 mg/mL), w/ syringe	2 mg	00008-0581-02	12.67	J2060	per 2 mg
Mannitol, 25% sol	50 mL	00074-4031-01	5.05	J2350	per 50 mL
Mechlorethamine HCl, pwd	10 mg	00006-7753-31	10.10	J9230	per 10 mg
Megace®					
Megestrol acetate, tablets, 20 mg	100 per bottle	00015-0595-01	75.68		
Megestrol acetate, tablets, 40 mg	100 per bottle	00015-0596-41	134.96		
	250 per bottle	00015-0596-46	330.68		
	500 per bottle	00015-0596-45	647.88		
Megace® Oral Suspension					
Megestrol acetate, oral suspension	8 fl oz	00015-0508-42	112.81		
Melphalan hydrochloride, pwd	50 mg	00173-0130-93	296.99	J9245	per 50 mg
Melphalan hydrochloride, tablets, 2 mg	50 per bottle	00173-0045-35	84.77	J8600	2 mg
Mesnex™					
• Mesna, sol (100 mg/mL)	1 g MDV	00015-3563-02	155.70	J9209	per 200 mg
Methotrexate, pwd	20 mg	00205-4654-90	2.78	J9250	per 5 mg
	1,000 mg	58406-0671-05	61.44	J9260	per 50 mg
Methotrexate, pres. free sol (25 mg/mL)	50 mg	55390-0031-10	6.88	J9260	per 50 mg
	100 mg	55390-0032-10	8.75	J9260	per 50 mg
	200 mg	55390-0033-10	17.50	J9260	per 50 mg
	250 mg	55390-0034-10	26.88	J9260	per 50 mg
Methotrexate, sol w/pres. (25 mg/mL)	50 mg	58406-0681-14	4.75	J9260	per 50 mg
	250 mg	58406-0681-17	20.48	J9260	per 50 mg
Methotrexate, tablets, 2.5 mg	100 per bottle	00555-0572-02	305.25	J8610	2.5 mg
	36 per bottle	00555-0572-35	130.05	J8610	2.5 mg
Metoclopramide, sol w/pres. (5 mg/mL)	2 mL	39769-0066-02	2.35	J2765	up to 10 mg
Metoclopramide, pres. free sol (5 mg/mL)	50 mg	00013-6116-95	8.73	J2765	up to 10 mg
	150 mg	00013-6126-95	23.54	J2765	up to 10 mg

REIMBURSEMENT

PRODUCT	VIAL SIZE	NDC	DECEMBER AWP/VIAL	'96 HCPCS CODE	BILLING UNITS
Venoglobulin S (continued)					
• Immune globulin intravenous, 10% sol w/IV set	5 g	49669-1622-01	475.00	J1562	per 5 g
•	10 g	49669-1623-01	950.00	J1562	per 5 g
•	20 g	49669-1624-01	1,900.00	J1562	per 5 g
Immune globulin intravenous, 10% sol w/IV set	1 g	00192-0649-12	75.00	J1561	per 500 mg
	5 g	00192-0649-20	375.00	J1562	per 5 g
	10 g	00192-0649-71	750.00	J1562	per 5 g
	20 g	00192-0649-24	1,500.00	J1562	per 5 g
Immune globulin intravenous, 5%-10% w/IV set	2.5 g	52769-0471-72	145.00	J1561 or J1562	
	5 g	52769-0471-75	290.00	J1561 or J1562	
	10 g	52769-0471-80	580.00	J1561 or J1562	
Rho D immune globulin intravenous	300 mcg	60492-0082-01	235.00	J3490*/J9999*	
Intron® A					
Interferon alfa 2b, pwd	3 MIU	00085-0647-03	32.93	J9214	per 1 MIU
	3 MIU syringe	00085-0647-04	32.93	J9214	per 1 MIU
	3 MIU PAK	00085-0647-05	32.93	J9214	per 1 MIU
	5 MIU	00085-0120-02	54.88	J9214	per 1 MIU
	5 MIU PAK	00085-0120-05	54.88	J9214	per 1 MIU
	10 MIU	00085-0571-02	109.75	J9214	per 1 MIU
	10 MIU PAK	00085-0571-06	109.75	J9214	per 1 MIU
	18 MIU	00085-0110-01	197.54	J9214	per 1 MIU
	25 MIU	00085-0285-02	274.39	J9214	per 1 MIU
	50 MIU	00085-0539-01	548.75	J9214	per 1 MIU
Interferon alfa 2b, sol (5 MIU/mL)	10 MIU	00085-0923-01	109.75	J9214	per 1 MIU
Interferon alfa 2b, sol (6 MIU/mL)	18 MIU MDV	00085-0953-01	197.54	J9214	per 1 MIU
Interferon alfa 2b, sol (5 MIU/mL)	25 MIU	00085-0769-01	274.39	J9214	per 1 MIU
Roferon® A					
Interferon alfa 2a, pwd w/3 mL diluent	18 MIU	00004-1993-09	197.55	J9213	per 3 MIU
Interferon alfa 2a, sol (3 MIU/mL)	3 MIU	00004-1987-09	32.94	J9213	per 3 MIU
Interferon alfa 2a, sol (10 MIU/mL)	9 MIU	00004-2010-09	92.76	J9213	per 3 MIU
Interferon alfa 2a, sol (6 MIU/mL)	18 MIU	00004-1988-09	197.55	J9213	per 3 MIU
Interferon alfa 2a, sol (36 MIU/mL)	36 MIU	00004-2005-09	395.14	J9213	per 3 MIU
Camptosar®					
Irinotecan HCl injection, CPT-11 (20 mg/mL)	5 mL	00009-7529-01	493.75	J9999*	
Leucovorin, pwd	50 mg	55390-0051-10	18.44	J0640	per 50 mg
	50 mg	58406-0621-05	21.53	J0640	per 50 mg
	100 mg	55390-0052-10	35.00	J0640	per 50 mg
	100 mg	58406-0622-06	39.41	J0640	per 50 mg
	200 mg	55390-0053-01	78.00	J0640	per 50 mg
	350 mg	58406-0623-07	137.94	J0640	per 50 mg
Lupron®					
Leuprolide acetate depot, susp. (7.5 mg/mL)	7.5 mg	00300-3629-01	515.63	J9217	per 7.5 mg
	22.5 mg	00300-3336-01	1,546.89	J9217	per 7.5 mg
Lorazepam, sol (2 mg/mL)	2 mg MDV	00008-0581-04	12.01	J2060	per 2 mg
Lorazepam, sol (2 mg/mL)	20 mg MDV	00008-0581-01	107.00	J2060	per 2 mg
Lorazepam, sol (4 mg/mL)	40 mg MDV	00008-0570-01	133.74	J2060	per 2 mg
Lorazepam, sol (2 mg/mL), w/ syringe	2 mg	00008-0581-02	12.67	J2060	per 2 mg
Mannitol, 25% sol	50 mL	00074-4031-01	5.05	J2150	per 50 mL
Mechlorethamine HCl, pwd	10 mg	00006-7753-31	10.10	J9230	per 10 mg
Megace®					
Megestrol acetate, tablets, 20 mg	100 per bottle	00015-0595-01	75.68		
Megestrol acetate, tablets, 40 mg	100 per bottle	00015-0596-41	134.96		
	250 per bottle	00015-0596-46	330.68		
	500 per bottle	00015-0596-45	647.88		
Megace® Oral Suspension					
Megestrol acetate, oral suspension	8 fl oz	00015-0508-42	112.81		
Melphalan hydrochloride, pwd	50 mg	00173-0130-93	296.99	J9245	per 50 mg
Melphalan hydrochloride, tablets, 2 mg	50 per bottle	00173-0045-35	84.77	J8600	2 mg
Mesnex™					
• Mesna, sol (100 mg/mL)	1 g MDV	00015-3563-02	155.70	J9209	per 200 mg
Methotrexate, pwd	20 mg	00205-4654-90	2.78	J9250	per 5 mg
	1,000 mg	58406-0671-05	61.44	J9260	per 50 mg
Methotrexate, pres. free sol (25 mg/mL)	50 mg	55390-0031-10	6.88	J9260	per 50 mg
	100 mg	55390-0032-10	8.75	J9260	per 50 mg
	200 mg	55390-0033-10	17.50	J9260	per 50 mg
	250 mg	55390-0034-10	26.88	J9260	per 50 mg
Methotrexate, sol w/pres. (25 mg/mL)	50 mg	58406-0681-14	4.75	J9260	per 50 mg
	250 mg	58406-0681-17	20.48	J9260	per 50 mg
Methotrexate, tablets, 2.5 mg	100 per bottle	00555-0572-02	305.25	J8610	2.5 mg
	36 per bottle	00555-0572-35	130.05	J8610	2.5 mg
Metoclopramide, sol w/pres. (5 mg/mL)	2 mL	39769-0066-02	2.35	J2765	up to 10 mg
Metoclopramide, pres. free sol (5 mg/mL)	50 mg	00013-6116-95	8.73	J2765	up to 10 mg
	150 mg	00013-6126-95	23.54	J2765	up to 10 mg

REIMBURSEMENT

PRODUCT	VIAL SIZE	NDC	DECEMBER AWP/VIAL	'96 HCPCS CODE	BILLING UNITS
Mutamycin®					
Mitomycin, pwd	5 mg	00015-3001-20	134.11	J9280	per 5 mg
	20 mg	00015-3002-20	452.91	J9290	per 20 mg
	40 mg	00015-3059-20	915.09	J9291	per 40 mg
Novantrone®					
Mitoxantrone, sol (2 mg/mL)	20 mg MDV	58406-0640-03	720.04	J9293	per 5 mg
	25 mg MDV	58406-0640-05	900.03	J9293	per 5 mg
	30 mg MDV	58406-0640-07	1,080.05	J9293	per 5 mg
Zofran®					
Ondansetron HCl, sol (2 mg/mL)	40 mg MDV	00173-0442-00	244.43	J2405	per 1 mg
Ondansetron HCl, sol (2 mg/mL)	4 mg	00173-0442-02	24.45	J2405	per 1 mg
Ondansetron HCl, sol premixed (32 mg/50 mL D5W)	32 mg bag	00173-0461-00	206.41	J2405*	per 1 mg
Sandostatin®					
Octreotide Acetate, sol (50 mcg/mL)	50 mcg amp	00078-0180-03	5.21	J9999*/J3490†	
Octreotide Acetate, sol (100 mcg/mL)	100 mcg amp	00078-0181-03	9.54	J9999*/J3490†	
Octreotide Acetate, sol (500 mcg/mL)	500 mcg amp	00078-0182-03	43.62	J9999*/J3490†	
TAXOL®					
Paclitaxel, semi-synthetic	30 mg	00015-3475-27	182.63	J9265	per 30 mg
	100 mg	00015-3476-27	608.76	J9265	per 30 mg
Aredia®					
Pamidronate disodium, pwd	30 mg	00083-2601-04	191.68	J2430	per 30 mg
	60 mg	00083-2606-01	383.36	J2430	per 30 mg
	90 mg	00083-2609-01	575.05	J2430	per 30 mg
Nipent™					
Pentostatin, pwd	10 mg	00071-4243-01	1,440.00	J9268	per 10 mg
Prochlorperazine, sol (5 mg/mL)	10 mg	00364-2231-48	2.64	J0780	up to 10 mg
	50 mg MDV	00364-2231-54	13.00	J0780	up to 10 mg
Prochlorperazine, tablets, 10 mg	100 per box	00007-3367-20	90.45		
Zantac®					
Ranitidine, sol (50 mg/2 mL)	2 mL	00173-0362-38	3.99	J9999*/J3490†	
Streptozocin, pwd	1 g	00009-0844-01	68.84	J9320	per 1 g
Vumon®					
• Teniposide, 50 mg	5 mL amp	00015-3075-19	168.18	J9999*	per 50 mg
Thioplex®					
Thiotepa, pwd	15 mg	58406-0661-02	78.45	J9340	per 15 mg
Hycamtin™					
• Topotecan HCl lyoph pwd	4 mg	00007-4201-05	509.44	J9999*	
Urokinase, sol (5,000 IU/mL)	5,000 IU	00074-6111-01	53.64	J3364	per 5,000 IU
	9,000 IU	00074-6145-02	93.54	J3364	per 5,000 IU
Vinblastine sulfate, pwd	10 mg	55390-0091-10	21.25	J9360	per 1 mg
	10 mg	00364-2447-54	37.50	J9360	per 1 mg
Vinblastine sulfate, sol (1 mg/mL)	10 mg	00469-2780-30	43.23	J9360	per 1 mg
Vincristine, preservative free sol (1 mg/mL)	1 mg	00013-7456-86	37.08	J9370	per 1 mg
	1 mg	61703-0309-06	31.25	J9370	per 1 mg
	2 mg	00013-7466-86	74.13	J9375	per 2 mg
	2 mg	61703-0309-16	38.25	J9375	per 2 mg
NAVELBINE®					
Vinorelbine tartrate, sol (10 mg/mL)	1 mL	00173-0656-01	56.55	J9390	per 10 mg
	5 mL	00173-0656-44	282.74	J9390	per 10 mg

•. An AWP, HCPCS code or NDC that has changed or been added has been highlighted in color.

* The drug code J9999 is defined as "not otherwise classified, antineoplastic drug." The Health Care Financing Administration (HCFA) has not assigned specific codes to these drugs.

† The drug code J3490 is defined as "unclassified drug." These drugs may or may not be defined as an unclassified drug in your area. Consult your local carrier for the appropriate code.

‡ Q0136 is the code for non-ESRD (End Stage Renal Disease) use.

+ The Health Care Financing Administration (HCFA) has notified Glaxo Wellcome that a separate J Code will not be issued for the Zofran 32 mg premixed bag. J2405 should be used for all formulations of Zofran.

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What's on your mind?

Your comments and suggestions are encouraged to help make this newsletter a better resource for you and the patients you serve. All correspondence will be addressed. Send your suggestions to: Mary Walsh, Editor, *The Network News*; Oncology Therapeutics Network; 395 Oyster Point Blvd., Suite 405; South San Francisco, CA 94080; Fax 800-800-5673

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ADDRESS CORRECTION REQUESTED

ONCOLOGY THERAPEUTICS NETWORK
395 OYSTER POINT BLVD., SUITE 405
SOUTH SAN FRANCISCO, CA 94080

REIMBURSEMENT

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	25 mg MDV	58406-0640-05	900.03	J9293	per 5 mg
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ONCOLOGY THERAPEUTICS NETWORK

EXHIBIT 27

AWP Price Report

AWP information is updated every month. Begin your report query* by specifying the search criteria below.

Select AWP Modifier

- -10%
- -5%
- 0%
- +5%
- +10%
- Other

Select the 'Other' option and enter in a numeric value if you wish to use an AWP modifier not listed.

Select Display Options

- [x] Show OTN Prices with Payment Terms
- [ ] Show Print Version**

Select Site

999998 - 395 Oyster Point Blvd #405

* - For optimal speed and printing results it is recommended that you use Internet Explorer 4 or 5.

** - The print version of the report may render text illegible on screen. This decreased font size has been implemented to accomodate large amounts of data. The reports will print legibly.

NOTE - AWP information is currently quoted from the *Red Book* and *Red Book Update*

AWP Price Report

- OTN Demonstration Site (999998)
- AWP last updated on: 2001-04-18 00:00 PST
- Prices effective as of: 2001-07-13 17:09 PST
- Payment Term Applied: 2% DIRECT

Click the button for a print friendly version.

NDC	PRODUCT + FORM CODE**	STRENGTH	UNIT SIZE	*OTN DISPENSING UNIT PRICE -2.0%	AWP -5%	HCPCS CODE	BILLING UNIT
00013-1166-83	ADRIAMYCIN PFS, SOL	2 MG/ML	100 ML	132.30	1,048.93	J9000	10MG
00088-1206-32	ANZEMET, SOL	20 MG/ML	5 ML	79.24	164.51	J1260	10MG
00083-2609-01	AREDIA, PDS	90 MG	1 EA	639.94	759.64	J2430	30MG
00083-2601-04	AREDIA, PDS	30 MG	1 EA	213.32	253.22	J2430	30MG
50242-0134-60	HERCEPTIN, PDS	440 MG	1 EA	1,976.50	2,324.56	J9355	10MG
00029-4152-01	KYTRIL, SOL	1 MG/ML	4 ML	594.86	741.76	J1626	100MCG
55390-0053-01	LEUCOVORIN CALCIUM, PDS	200 MG	1 EA	9.31	74.10	J0640	50MG
00173-0656-44	NAVELBINE, SOL	10 MG/ML	5 ML	409.14	396.39	J9390	10MG
55513-0209-10	NEUPOGEN, INJ	600 MCG/ML	1 ML	269.10	313.03	J1440 J1441	300MCG 480MCG
55513-0924-10	NEUPOGEN, INJ	600 MCG/ML	1 ML	168.95	196.56	J1440 J1441	300MCG 480MCG
55513-0530-10	NEUPOGEN, SOL	300 MCG/ML	1 ML	152.96	179.08	J1440	300MCG
55513-0546-10	NEUPOGEN, SOL	300 MCG/ML	2 ML	245.69	285.38	J1441	480MCG
00015-3214-30	PARAPLATIN, PDS	150 MG	1 EA	264.07	333.32	J9045	50MG
00015-3213-30	PARAPLATIN, PDS	50 MG	1 EA	88.03	111.12	J9045	50MG
00015-3215-30	PARAPLATIN, PDS	450 MG	1 EA	792.24	999.98	J9045	50MG
00015-3220-22	PLATINOL-AQ, SOL	1 MG/ML	50 ML	188.14	237.49	J9060 J9062	10MG 50MG
00015-3221-22	PLATINOL-AQ, SOL	1 MG/ML	100 ML	376.25	474.92	J9060 J9062	10MG 50MG
59676-0320-01	PROCRIT, SOL	20,000 U/ML	1 ML	196.00	245.18	Q0136	1000 UNIT
59676-0340-01	PROCRIT, SOL	40,000 U/ML	1 ML	392.00	490.38	Q0136	1000 UNIT
57894-0030-01	REMICADE, PDS	100 MG	1 EA	500.53	632.37	J1745	10MG
50242-0051-21	RITUXAN, SOL	10 MG/ML	10 ML	399.09	454.55	J9310	100MG
50242-0053-06	RITUXAN, SOL	10 MG/ML	50 ML	1,996.30	2,272.75	J9310	100MG
00015-3475-30	TAXOL, SOL	6 MG/ML	5 ML	129.07	173.50	J9265	30MG
00015-3476-30	TAXOL, SOL	6 MG/ML	17 ML	429.76	578.33	J9265	30MG
00015-3479-11	TAXOL, SOL	6 MG/ML	50 ML	1,290.66	1,734.94	J9265	30MG
00173-0442-00	ZOFRAN, SOL	2 MG/ML	20 ML	174.65	243.58	J2405	1MG
00173-0461-00	ZOFRAN, SOL	32 MG/50 ML	50 ML	129.01	196.09	J2405	1MG

Run New AWP/Price Report

* The OTN Dispensing Unit Price is an estimation of your costs according to the dispensing unit size specified by MicroMedex. This price may differ from the *selling* unit price you normally see.

** FORM CODE LEGEND

- CAP = Capsule
- LOZ = Lozenge
- PDS = Powder for Solution
- PWD = Powder

EXHIBIT 28

Executive Summary

Legislators from six New England states agreed to form a purchasing group that would use price controls and bulk purchasing to reduce prescription drug costs for consumers and state health plans. This proposal, along with the Massachusetts plan for a state-run drug program is supposed reap huge savings by slapping limits on what are (always) "skyrocketing drug prices." Instead – as experience in government programs in America and abroad have shown – the savings will come by limiting access to new and needed medicines in the name of cost containment.

Drug prices are not the reason drug costs are rising. Last year, only 3 percent of the rise in drug cost were due to wholesale price increases. Most of it rise in drug spending is due to increasing use of drugs and the introduction of new medications. Over the five year period 1993 - 1998, prescription drug spending rose from $51 billion to $93 billion, or by 84 percent. 65 percent of this $42 billion increase, was associated with new prescription drugs: that is, those approved by the FDA after 1992.

New drugs now taken to prevent disease and reduce death account for over half of that spending. For example, an estimated 98 percent of the 1998 sales of antihistamines, 68 percent of anti-cholesterol agents, and 51 percent of antidepressants were derived from new drugs. Some new drugs do cost more than older drugs. However, they are better technologies that treat such illnesses as Alzheimer's, cancer and AIDS that reduce hospitalization as well enrich and lengthen an individual's life.

That's why pharmacy benefit managers, private companies the New England group and the Massachusetts plan would rely on to administer their programs and control drug do not get most of their saving from price cuts. Instead, as a study by the U.S. General Accounting Office of the three Federal Employees Health Benefits Program (FEHBP) found, the vast majority of the savings – up to 70 percent -- come from obtaining discounts from pharmacies in their mark ups and dispensing fees and from shifting business away from smaller retail pharmacies.

What's more, the report concludes that PBM and industry experts "acknowledge that any additional efforts to control FEHBP pharmacy benefit costs in the future might require plans to adopt more restrictive cost-containment procedures that could possibly limit enrollees access to drugs and pharmacy services..."

The only way to cut costs as deeply as the New England group wants to is to deny people – particularly the poor and elderly – the medicines they need to keep them healthy. That means switching people to generic drug or a different medication than they one they are on now or simply not letting them have new medicines altogether.

Similar cost-containment strategies are used in Europe and Canada. The British prescription drug plan refused to cover the cost of new anti-flu drugs, calling it a high-priced waste of money. Then the flu epidemic hit. Old people and asthmatics wound up

in hospitals and died. Using the same pharmacy benefit tools the PBMs would use here, the Canadian prescription drug plans have done real harm to the poor and elderly. Twenty-seven percent of the physicians in British Columbia reported that they had to admit patients to the emergency room or the hospital as the result of mandated medicine switching.

It is true that seniors can often buy drugs in Canada – where the government imposes price controls on drugs — for much less than in America. But thousands of Ontario seniors are also being denied new treatments for osteoporosis, Alzheimer's and Parkinson's disease in the name of cost containment. The new therapies are among dozens waiting to be added to the Ontario drug list that dictates which products the government will pay for.

There is no easy fix. Drug costs will continue to rise because they are becoming a larger part of the solution to the problem of disease. Price controls and bulk purchasing plans may put "the fear of God" into the pharmaceutical companies as one legislator hopes. But in the end the New England plans will harm the health of those the politicians seem so eager to help. That should be the legislator's biggest fear of all.

Can the Bulk Purchase of Prescription Drugs Reduce Costs?

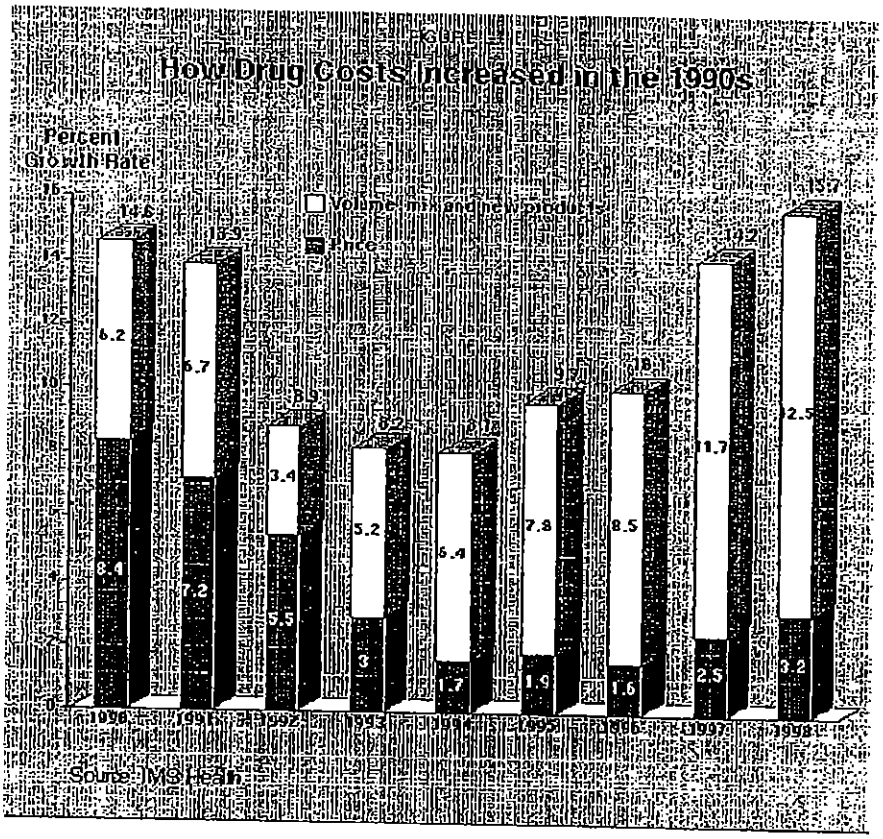
In recent weeks two major political proposals have been unveiled that have the goal of reducing the cost of prescription drugs for seniors and other people with limited prescription drug coverage. In Massachusetts, Section 271 of the Budget Bill would lead to the creation of a program in which the Commonwealth would become the buyer of drugs for about 2 million people. Meanwhile, legislators from four New Englad states (Vermont, Maine, New Hampshire and Massachusetts) are discussion a was to form a regional purchasing alliance. Proponents of claim that government should bargain down the price of drugs by using its power as a huge purchaser of health care products.

There are three ways governments can control drug costs for consumers. The first is price controls as found in Europe and in Canada. But do price controls lead directly to cuts in total drug spending? . In fact, the opposite occurs. While price controls produced lower prices, they did not reduce total pharmaceutical expenditures (price times volume) nor did they contain total health care spending.

A 1993 study by Heinz Redwood and a 1994 study by David Gross comparing international pharmaceutical spending controls found that comparing international pharmaceutical spending controls found that while price controls produced lower prices, they did not reduce total pharmaceutical expenditures (price times volume) nor did they contain total health care spending.[1] Similarly, price controls in Japan cut drug prices by 60 percent, but drug costs rose 59 percent between 1980 and 1993. In creased prescribing and new drugs at higher prices induce higher than expected demand. As a

result, governments begin to deny, delay and dilute patient access to newer medications; often at the expense of the patient's well being.

The reason price controls don't rein in spending is fairly straightforward. Drug costs are rising primarily because of nonprice factors, including increased volume of prescriptions, record sales of new products and a changing mix of available products. Price increases have been relatively modest over the past 10 years. As Figure I shows, according to a survey by the leading prescription drug price and sales database information company, IMS Health, of a 14.2 percent increase in total drug costs in 1997, only 2.5 percent stemmed from price increases. Of a 15.7 percent increase in total drug costs in 1998, only 3.2 percent was caused by price increases.



As result, attempts to drive down the drug costs through price controls only appear to encourage increased consumption of drugs, driving drug spending up higher. Hence, as the following table shows, Europe and Japan spends more on drugs as a percent of total health care spending than does the United States. Further drug spending internationally has been rising as fast and faster than it has in America. Recently to reverse this trend,

other countries have begun to delay or deny consumers access to newer medications that have higher launch prices or are likely to be more in greater demand because of their importance or high regard in the medical community.[2]

Second, federal Medicaid efforts to lower drug prices suggest how the New England plans could put upward pressure on prices for people with coverages in other plan. In 1990, the Congress required drug manufacturers to give state Medicaid programs rebates for outpatient drugs based on the lowest prices they charged other purchasers. Because of the size of the Medicaid market, however,many drug manufacturers sought to minimize the impact of the rebates on their business by raising outpatient drug prices to some private sector purchasers.[3] A government study found that the level of discounting has decreased substantially during the 1990s. Few are in excess of 15%, the mandated minimum rebate to Medicaid. Any discounts offered private customers in excess of 15% result in the manufacturer incurring liability for higher rebates to Medicaid, a costly proposition. Hence price control legislation has had the effect of "tightening up" the level of discounting of single source brands.

In response, proponents of the Massachusetts and New England buying plan claim that they are not in favor of price controls. Rather, they are simply using their buying power to force companies to give them – and consumers – their best price. As evidence they point to studies from Democratic members of the U.S. House of Representatives Government Reform Committee that show the difference between the price between what seniors pay at a retail pharmacy and what an HMO pays at about 100 percent.

In fact, this pricing disparity is inaccurate at best and misleading at worst. The study claims that seniors in Washington, D.C., pay nearly 100 percent more for drugs than do managed care companies. The claim is based on the assumption that the prices HMOs pay for drugs are equivalent to prices in what is known as the Federal Supply Schedule (FSS). However, very few government agencies, primarily the Veterans Administration, get the FSS deep discount on prescription drugs. HMOs do not get FSS prices. Neither does the government, except for this special case. According to the General Accounting Office (GAO), "...many FSS prices are more than 50 percent below nonfederal average manufacturer prices. But companies have been willing to give federal purchasers such low prices because they consider the FSS to be a special, limited category of pricing that affects no more than about 2 to 3 percent of total dollars in domestic pharmaceutical sales."[4]

Another GAO report concluded that the typical "best price" paid by HMOs and hospitals was discounted 14 to 15 percent.[5] A report by the Congressional Budget Office (CBO) put the discount at 19 percent.[6] Sixty-five percent of Medicare beneficiaries have some form of prescription drug benefit plan, and seniors can buy drugs at a discount through AARP, private buying clubs, other organizations and discount pharmacies.

The federal government itself creates problems for seniors. A new study by Milliman & Robertson, the nation's leading actuarial consulting firm on health benefits, concludes

that senior citizens could have comprehensive coverage for prescription drugs in addition to other Medicare benefits with virtually no increase in personal costs if private health plans were allowed to administer the benefits.[7] The study finds that private health plans have the ability to eliminate much of the waste and inefficiency in Medicare and apply the savings to the cost of prescription drugs not currently covered.

The prices charged cash paying patients are the result of several other factors, only one of which is under the control of the manufacturer. To use these prices to compare with FSS prices is disingenuous, at best, if not downright misleading. To hold manufacturers responsible for retail prices makes no more sense than holding retailers responsible for manufacturers' prices. Each sets prices according to their needs and objectives. Table 1 lists the portion of the gap between FSS and retail prices that can be attributable to manufacturer pricing actions and those undertaken by wholesalers and retailers. The list prices are those in effect during August of 1998, the estimated period during which the Minority staff collected their data. As can be seen, manufacturer prices account for less than half of the difference between FSS and the retail price.

TABLE 1: PRICE DIFFERENCES DUE TO THE ACTIONS OF MANUFACTURERS AND OTHERS

Brand Name Drug	Dosage and Form	FSS	Actual Price to Mfr.	Retail Price	Portion of Difference due to Manufacturer	Portion of Difference due to Others
Zocor™	5 mg 60 tablets	$42.95	$83.76	$114.40	$40.81 (48%)	$30.64 (52%)
Prilosec™*	20 mg 30 cap.	$56.38	$94.81	$124.17	$38.43 (57%)	$29.36 (43%)
Procardia XL™	30 mg 100 tab.	$67.35	$105.73	$144.38	$35.60 (50%)	$38.65 (50%)
Norvasc™	5 mg 90 tablets	$58.83	$91.06	$125.51	$37.13 (48%)	$34.45 (52%)
Zoloft™	50 mg 100 tab	$128.88	$173.56	$231.46	$40.11 (46%)	$57.90 (56%)

The retail prices charged to cash paying customers, it must be noted, are substantially higher than those charged other customers. This is due to the convergence of many factors, the most important of which is the low level of profitability afforded retail pharmacies for prescriptions paid for by private third party plans. This will be addressed in the following section.

Manufacturer, Wholesaler, and Retailer Pricing

The simplistic interpretation of prices in the Minority report is, unfortunately, typical of analyses of pharmaceutical prices conducted by many, inside and outside of government.

The terms, conventions, and practices of those involved in the distribution and selling of pharmaceuticals are archaic and far from transparent. There are, however, two certainties in pharmaceutical pricing that should guide all analyses: no wholesalers pay the list price and no retailer pays average wholesale price (AWP). As previously discussed, by convention all manufacturers sell to wholesalers at prices 2% below the list price. Wholesalers then sell medicines to retail pharmacies at prices significantly below the published AWP. Most wholesalers sell to their customers at prices ranging from the manufacturer's list price to 6% above list price, depending on the size of the retail customer and the volume of sales for the specific product. Large retail chains can negotiate better prices from wholesalers than can small independent pharmacies, and wholesalers use low markups on popular brands to secure the business of retailers. The products listed in the Minority report, in fact, are among those that are marked up the least by wholesalers, usually list price plus 2%.

The AWP, rather than being a measure of wholesale prices, is a vestige of a system that has not existed in over a decade. Through the 1970s most wholesalers did charge the AWP. Until that time most wholesalers were small regional firms serving a limited number of retailers with little direct competition. Consolidation in the industry resulted in fewer but larger wholesalers, competing for the same retailer's business. Wholesalers began to offer discounts from the AWP to their loyal customers, to the extent that by the early 1980 most products were purchased for AWP minus 10% to 15%. Through the 1980s the terms changes and wholesalers moved to a system of "cost plus" pricing.

Retail pharmacies have used the AWP as the basis for setting their prices for many years. As retail acquisition prices fell relative to AWP, retailers called the difference an "earned margin," because it was first based on purchase size. Because the discount was earned, pharmacies saw no need to pass along the savings, choosing to continue to base their prices on the published AWP. The joke in retail pharmacy circles is that AWP stands for "Ain't What's Paid." Table 2 lists the actual prices that would be paid by wholesalers and retailers for the products used in the Minority report.

TABLE 2: ACTUAL FLOW OF PRICES

Brand Name Drug	Dosage and Form	Mfr List	Actual WAC (list -2%)	AAC Retail Cost	AWP	Retail Selling Price	Retail Profit Margin
Zocor™	5 mg 60 tablets	$83.76	$90.60	$90.60	$106.84	$114.40	$23.80 (26%)
Prilosec™	20 mg 30 cap.	$94.81	$102.54	$102.54	$116.09	$124.17	$21.63 (21%)
Procardia XL™	30 mg 100 tab.	$105.73	$114.36	$111.35	$134.86	$144.38	$30.02 (26%)
Norvasc™	5 mg 90 tablets	$91.06	$98.50	$103.80	$116.15	$125.51	$27.01 (25%)

Zoloft™	50 mg 100 tab	$173.56	$187.73	$182.79	$221.38	$231.46	$43.73 (23%)

The bulk of prescriptions dispensed by retail pharmacies are paid for by third parties, either Medicaid or private health plans. Medicaid bases its reimbursement rates on the AWP, plus a fixed fee that varies by state. Private third party plans negotiate reimbursement rates with retail pharmacies, with most now set at AWP less 5% to 15%, providing the pharmacy with little or no operating profit on those prescription sales. Because Medicaid provides a fee in addition to AWP, those prescriptions do produce profit. For patients that do not have third party coverage for their prescriptions, pharmacies are forced to charge AWP plus some markup to cover operating expenses. This form of cost shifting is lamentable, but retail pharmacies, especially smaller independent pharmacies, cannot continue in operation without these added charges.

The widespread deep discounting of single source branded pharmaceuticals alleged in the Minority report does not take place. In fact, If manufacturers routinely offered other customers prices similar to those mandated for FSS, the Medicaid program would be much more prosperous.

An important reason for the high prices paid by seniors, half of the difference between FSS prices and those charged uninsured seniors, is the lack of profitability of private third party prescriptions. Retailer pharmacies are forced to shift costs to other parties, which means that cash paying patients are actually subsidizing the "savings" of managed care plans.

The Limits of Bulk Purchase Plans in Reducing Drug Prices

It is for this reason that absent draconian price controls, the New England plans will not reduce drug costs much at the manufacturer level. The experience of the Federal Employee Health Benefit Plan prescription drug plan in trying to control drug costs is instructive in this regard.

Federal Employees Health Benefits Program (FEHBP) has about 9 million federal employees, retirees, and dependents and spends over $2 billion on prescription drugs in its five largest plans. In 1995, pharmacy benefit payments for these plans made up nearly 20 percent of total health care costs, up from 12 percent in 1990, an increase of 58 percent over five years.

To control drug costs, FEHBP plans have contracted with pharmacy benefit managers (PBM). In 1995 about 58 percent of federal were covered by a PBM. Today that figure is about 65 percent. In a study of the FEHBP experience with PBM the U.S General Accounting Office found that manufacturer price discounts did not account for most of the savings. The largest health plan studied, Blue Cross Blue Shield had the best shot at generating such cuts and their experience offers a useful guide to the New England states:

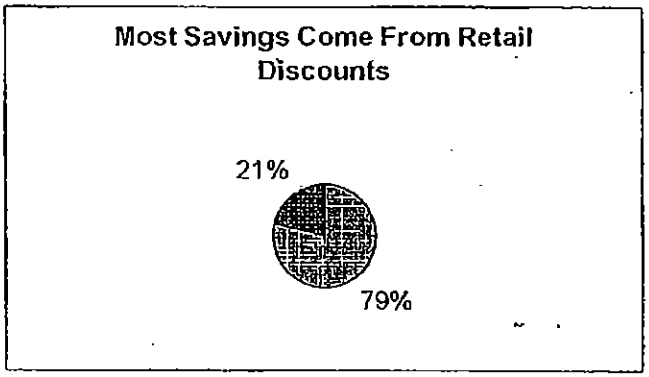
- Retail and mail order pharmacy discounts accounted for about $264 million in savings. For retail, total savings resulted from the difference between the reimbursement amount PCS paid pharmacies for individual prescriptions and the drugs' usual and customary prices. Mail order savings resulted from discounts off AWP that Blue Cross negotiated with Medco.

- MAC savings accounted for approximately $72 million in savings. These savings resulted from the difference between the reimbursement amount PCS paid the pharmacies for certain generic drugs and the drugs' usual and customary prices.

- Limits on access to drugs saved another $62 million. This included such techniques as reversing or denying prescriptions, switching people to less expensive brand-name drugs, denying reimbursement of drugs by or enrollees who never asked for and never received approval for use of certain drugs.

- Manufacturer rebates accounted for about $107 million in savings

and represent the guaranteed manufacturer discounts that PCS and Medco negotiated with drug manufacturers for including their products on their formulary. Blue Cross received 90 percent of the total rebates, and the PBMs retained the remaining 10 percent as an administrative fee and incentive to increase the amount of discounts.



Rebates amounted to only 21 percent of total savings. Since Massachusetts and other states would forfeit Medicaid rebates if the did their own bulk purchasing plans they could not count on those discounts to add to any savings generated from such an initiative. In addition, they would have to pay a private contractor an administrative fee for running a drug benefit plan and negotiating discounts. In any event, the idea that a bulk purchasing plan could generate huge savings by slashing drug prices is highly unrealistic.

The GAO's conclusion about how PBM's will be able to control drug costs in the future under the current health care system should also be of concern to policymakers who believe that it is simply a matter of reining in drug prices. The GAO conclusion reflects the problem many health plans – both public and private – are facing in reducing drug costs without regard to the role drugs play on the total health care cost equation:

"Although the future impact of PBM use on federal enrollees and retail pharmacies is unclear, additional efforts to control FEHBP plans' pharmacy benefit costs could affect retail pharmacies and federal enrollees. For example, if the number of retired FEHBP enrollees continues to grow, payments for maintenance drugs might increase and the plans might decide to provide additional incentives to use mail order services for maintenance prescriptions. This type of benefit change could allow the plans to take further advantage of large mail order discounts but could also result in further declines in the plans' payments to retail pharmacies. Moreover, if plans adopt additional actions to control pharmacy benefit costs, such as adopting restrictive formularies and more aggressive therapeutic interchange programs or reducing reimbursement rates and the size of the retail network, these actions could affect enrollees' access to drugs."[8]

Limits on Access to Drugs As A Way of Controlling Drug Costs: The Case of Canada

The only recourse is to control access to drugs as other government run plans have. Canada is looked to as the Great Escape for American seniors in search of low cost medicines. But beyond the bus trips across the border to buy drugs in Canadian pharmacies is the reality that many of the medicines used by the elderly in the United States including some used to treat arthritis, osteoporosis, endometrial hyperplasia, and allergic rhinitis - are not reimbursed by some of Canada's largest provincial health plans which are similar in scope and operation to that proposed by the New England alliance and Massachusetts. Consider the recent article in the Toronto Globe and Mail:

> **Formulary has not been updated for more than a year**
>
> Thousands of Ontario seniors are being denied new treatments for osteoporosis, Alzheimer's and Parkinson's disease as the province struggles to keep a lid on rising drug costs, manufacturers say.
>
> The new therapies are among dozens waiting to be added to the Ontario drug formulary a list that dictates which products the government will pay for seniors and people on social assistance. A spokesperson for Health Minister Elizabeth Witmer admitted many of the drugs being kept off the formulary "have long-term benefits both for our budget and for patients." [910]

This news account is consistent with examples of other prescription restrictions in the Canadian prescription drug program:

- In Alberta, it took almost another 2 years to get a medicine to treat angina on formulary;
- In British Columbia, it took another 1.5 years to get an ulcer medication on formulary;
- In Alberta and Ontario, it took another 2 years to get a medicine to treat angina on formulary;
- In British Columbia, it took another 2.3 years to get an anemia medicine on the formulary;
- In 1998, in Canada's four most populous provinces — Ontario, Quebec, British Columbia and Alberta — delays related to formulary coverage decisions for all new drugs ranged from 445 days to 984 days.

- Reference-based pricing in British Columbia functionally restricts access to some medicines for some patients based on price. As a result of reference pricing, this can mean that a patient may have access only to the lowest cost medicine in a class of drugs, rather than the most efficacious and most appropriate for the patient. [11]

Studies of the impact of such limits on seniors in Canadian have found that they have compromised their health and have led to increased health care costs:

- A recent study found that in Canada seniors with heart problems are consistently under prescribed newer and effective drugs. These care patterns may contribute to their enhanced risk. The authors of the study concluded that prescribing newer cholesterol lowering drugs consistent with recent research that finds doing so will cut the risk of heart disease by 40 percent would be beneficial for this presently disadvantaged, readily identified, high risk patient population.[12]
- Canadian seniors with with high blood pressure who are initially prescribed captopril which is a cheaper and older ACE-inhibitor, were hospitalized and sicker than seniors who were given newer ACE-inhibitors such as enalapril or lisinopril. This suggests that ACE inhibitors may not be therapeutically equivalent.[13]
- A General Accounting Office study found that Canadian breast cancer patients were less likely to receive newer chemotherapy treatments and had lower survival rates than American women.[14]
- While all American seniors can receive the new drug Irinotecan that extends and improves the lives of bowel-cancer patients in any health plan, the Canadian health ministry rations the drug to a handful of individuals.
- 12% of Canadian and British nephrologists, respectively, but only 2% of American nephrologists, reported refusing dialysis due to age and financial constraints. The authors conclude that the patterns of nonreferral reported raise a concern that patients who might benefit are not being referred to dialysis centers.[15]
- A 1997 survey of Canadian doctors found that 20 percent of patients who had been required to change their patient's drugs under the British Columbia drug plan had been admitted to hospitals or emergency rooms because of adverse drug reactions or other problems related to the drug switch.[16]
- The same survey of physicians reported that 60 percent of doctors observed a worsening or accelerating of symptoms due to mandated medicine switching for cardiovascular or hypertension patients.

In similar ways, proposed prescription drug plans in New England could lead to limits on access to important medications for seniors. Despite the best of intentions, it a prescription drug benefit would invite bureaucrats to decide what drug the elderly could take and to switch drugs without patients' consent. Government-mandated drug switching interferes with the doctor-patient relationship and may compromise the health of seniors.

Medicaid's price controls have been combined with such approaches to controlling the inevitable rise in costs associated with regulation.

- A 1991 study published in the New England Journal of Medicine found that when New Hampshire restricted the number of prescriptions reimbursed by Medicaid, the elderly entered nursing homes at a rate more than 60 percent greater than in a control state.
- Although drug utilization fell 35 percent, nursing home admissions rose 60 percent and overall health care expenditures increased.
- When the restrictions were lifted, nursing home admissions decreased.[17]
- A 1994 study in the New England Journal of Medicine by the same authors found that New Hampshire's prescription drug caps saved an average $57 per year on drugs for schizophrenia patients - but added $1,530 per year in costs for visits to mental health clinics and emergency rooms.[18]

Drug switching and rationing can harm the elderly because seniors can react differently to medications than do younger people. This is particularly true for medications used in treating depression, Parkinson's disease and high blood pressure. A change made to save money may force a senior into a nursing home or hospital. Yet advocates of a new drug entitlement program are the most aggressive supporters of forced substitution of generic medications by the government.

Dr. Susan Horn conducted a study of pharmaceutical restrictions in six managed care plans. She found that restricting access to pharmaceuticals resulted in inappropriate shifts to other services, including more expensive hospital visits. Arguably, patients who required hospitalization as a result of pharmaceutical restrictions have worse health status as well. In a study of 13,000 patients from six HMOs, she found that when the limitations people faced in getting drugs, the more often they went into the emergency room and hospital and doctor for such illnesses as depression, heart disease, ulcers and diabetes. She also found that increasing co-payment levels for prescription drugs had the unexpected result of raising hospital admission rates.[19]

Dr. Horn then focused on the impact of restricting freedom of choice of drugs on the elderly. She looked at the same group of patients in the six HMOs and found that seniors were twice as likely to be harmed by formulary limits as people under the age of 65. Worse, the negative impact of restrictions on seniors was twice that of individuals under the age of 65. That is, faced with the same restrictions as someone 65 and under, an elderly person in the same HMO was twice as likely to be hospitalized or need to see a doctor as a result of the loss of choice.[20]

Price controls and bulk purchasing do not lead to lower drug costs. The principal means government uses to reduce drug costs is to limit access to new drugs. In turn such rationing winds up hurting patients and driving up the cost of other forms of care. In in the absence of reforms in the way we pay for health care, legislative efforts should focus on ways to extend drug coverage. In particular, the government should seek to sign up the 60 percent of seniors who are eligible for Medicaid (and drug coverage) but are not enrolled. Tax credits could be provided for the purchase of supplemental insurance policies for seniors wishing to remain in the traditional Medicare program.

Such reforms would extend drug coverage and preserve the private marketplace. More importantly, they would maintain the incentive to invest in biomedical innovations. Seniors are spending less money on and less time in hospitals and living longer because of the good new drugs do. The rates of death due to heart disease and cancer are dropping. New drugs to treat Alzheimer's and Parkinson's diseases are in development. Price controls will kill this research without giving people real protection against the cost of health care. We need to work on ways to assure that seniors – as well as all Americans have access to the steady flow of medical innovations. The solution to higher drug costs is to provide drug coverage to the truly needy without government limits on drug prices or drug selection.

Endnotes

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[9]

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EXHIBIT 29

AWP (Ain't What's Paid)

Origin

Before the 1980's, there were many pharmaceutical companies, who sold to many wholesalers and many retailers. Since the wholesalers were regional in nature, it was difficult to ascertain the "average" price manufacturers sold product for. Most manufacturers sold through wholesalers only, but some did sell direct to retailers. The price manufacturers sold product to wholesalers for was termed Wholesale List Price or "WLP". On average, wholesalers marked WLP up 20% from manufacturers selling product to wholesalers only, when selling product to retail pharmacies. Wholesalers marked-up product 25% from manufacturers who also had direct pharmacy sales. As an example, Bristol-Myers did not deal in direct sales, hence had a 20% markup, while Squibb's direct policy caused a 25% markup, also known as "WLP to AWP spread."

A pricing service, FirstDataBank, found a market niche in surveying wholesalers and retailers for the average price wholesalers sold product to pharmacies for, hence "Average Wholesale Price." They published this information in such sources a Redbook and PriceAlert.

Over the past 20 years, much consolidation has occurred within the pharmaceutical wholesale and retail supply chain. Now, major wholesalers and pharmacy chains are able to negotiate much better pricing from each other, as well as from manufacturers. Wholesalers and retailers now work on slim margins and mark-ups from WLP are in the 2% - 4% range. But, FirstDatabank has maintained the 20% - 25% AWP markup legacy and continues to publish this artificially inflated number. This markup is applied to new and old products based on the manufacturer asigned to the product labeller code.

Current Usage

While pharmacies and payors both know that AWP is artificially inflated, it is the only easily obtained, published price source. Therefore, reimbursement formulas are still based on AWP, with a discount subtracted from it. An example of how a MCO reimburses a pharmacy might be: AWP – 13% + a filling fee of $2 less the co-pay that has already been paid by the customer when picking up the prescription. In simple terms:

AWP – discount +fee – copay

The discount level depends on the payor type and the contract entered into by payor and pharmacy.

In addition, pharmacies often use AWP as a benchmark when determining how much to charge a cash paying customer for a prescription.

Aside from pharmaceutical distribution channels, AWP is used by many when providing analysis on drug pricing. Many newspaper articles and invest bank research notes use AWP as a tracking variable. Since it is a published number, AWP is the logical variable to track when performin price increase analysis, as so many publications and advocacy groups do.

EXHIBIT 30

Understanding AWPs

April 2002

Global P&R

Overview

Background

AWP is a pricing term used in the US which is frequently referenced incorrectly.

Presentation Objective

The objective of this presentation is to communicate the meaning of the term AWP and to show its use within the US pharmaceutical marketplace

AWP Defined

AWP = Average Wholesale Price

Despite its name the AWP is not, however, the price charged by manufacturers to wholesalers or the price charged by wholesalers to their customers

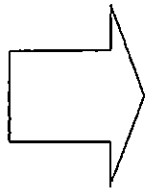
Where Did AWP Come From?

AWPs are the legacy of a distribution system which ceased to exist in the early 1980s

Pre 1980s

Data services like First Data Bank emerged to maintain a database of AWP prices

Hundreds of small, independent, regional wholesalers operating in US



Charged markup of 20-25% on sales to retail customers

Generally a 20% markup on products sold only through wholesalers

25% on products also sold directly

1980s and Beyond

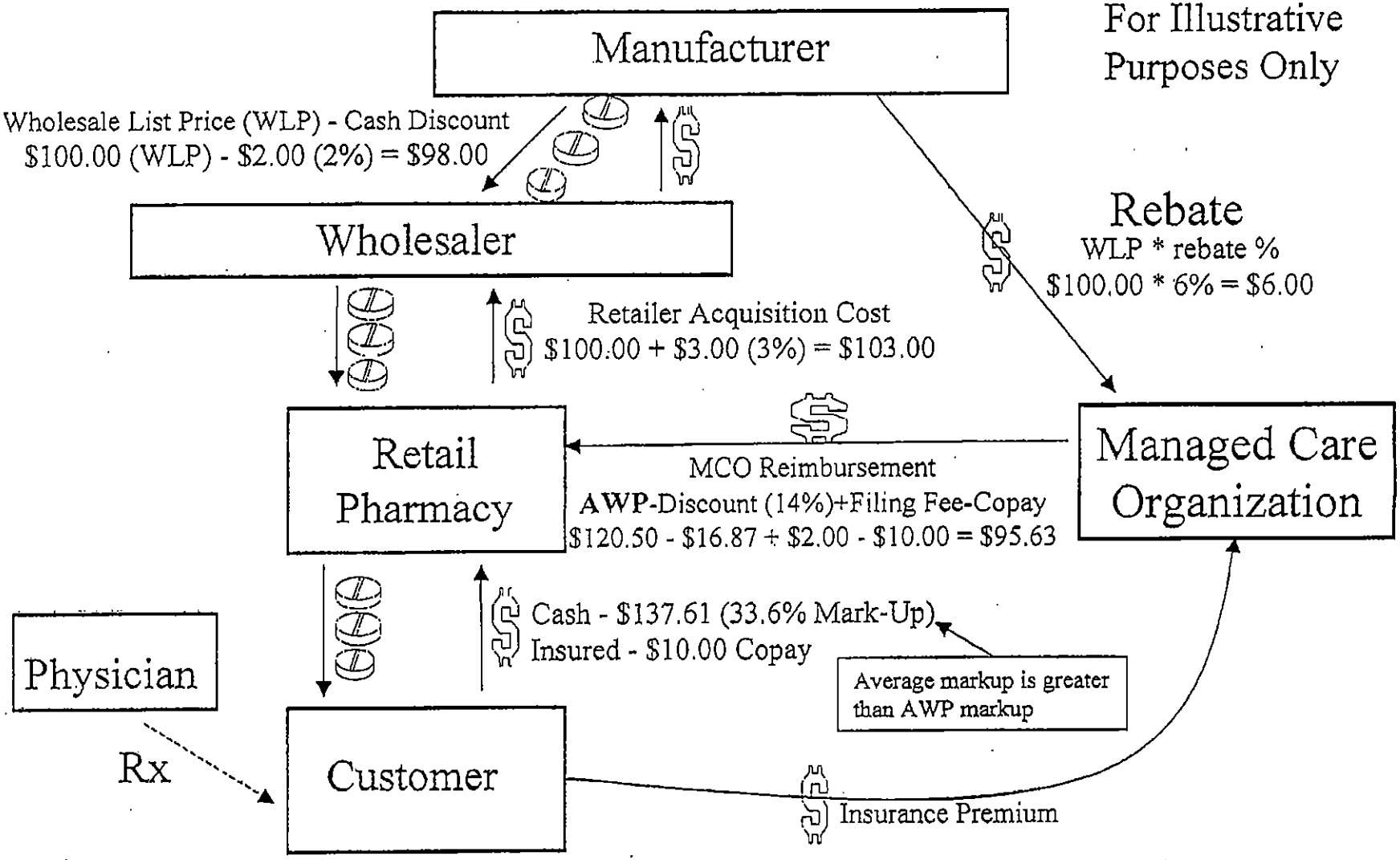
- Wholesaler consolidation brought increased price competition
- Actual markup to retailers dropped dramatically
- Convention of data services publishing AWP prices did not change

How is the AWP Used Today?

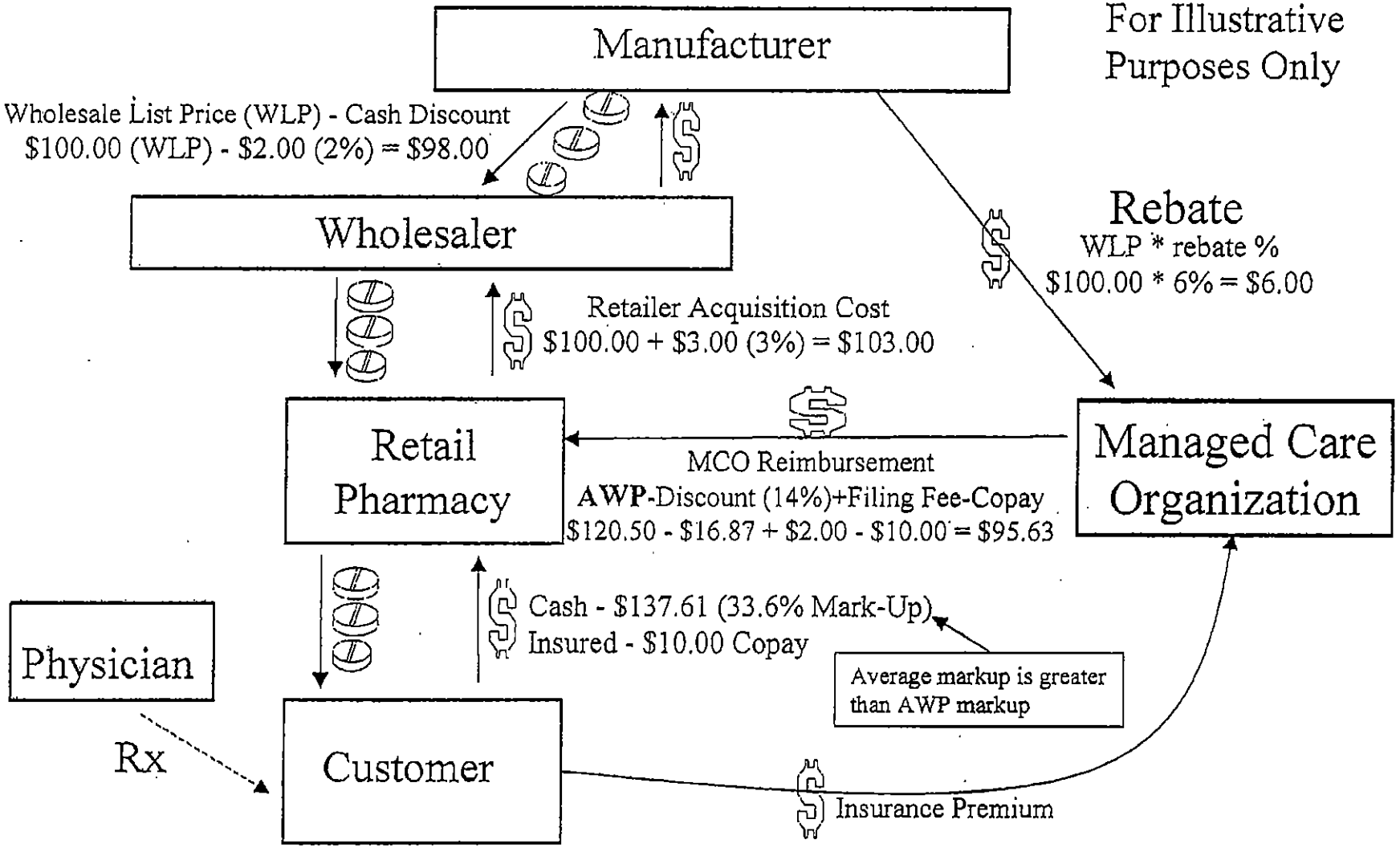
AWPs are used by wholesalers and retailers to determine the prices that they charge their customers and by payers to determine the levels that they will reimburse for products

- Wholesalers will charge retailers on either a cost plus or AWP minus basis.
- Retailers are free to charge any price that they wish but will often refer to AWP as "list price". This mainly impacts the amount charged to cash customers.
- Managed Health Care companies generally negotiate reimbursement with retailers based on a discount off of the published AWP price.
- Medicaid agencies generally reimburse pharmacies using a calculation based on a product's AWP.
- Medicare reimburses on an AWP basis for those pharmaceuticals for which they provide coverage (mainly for oncology products)
- The media often refers to AWP as the cost of the drug. Generally implying that this is the amount that manufacturers charge.

Representation of Distribution of Branded Pharmaceuticals in the US



Representation of Distribution of Branded Pharmaceuticals in the US



Retail Net Profit - Cash Customer = $137.61 - $103.00 = $ 34.61
Retail Net Profit - MCO Customer = $105.63 - $103.00 = $ 2.63

MCO Net Cost = MCO Reimbursement - Rebate
$95.63-$6.00 = $89.63

Representation of Distribution of Branded Pharmaceuticals in the US

Key Points

- Retailer makes greater profit on cash customer

	Cash Customer	MCO Customer
Selling Price - Cash	$ 137.61	
MCO Reimbursement		$ 95.63
Copay		$ 10.00
Total Sales Value	$ 137.61	$ 105.63
Product Cost	$ 103.00	$ 103.00
Profit	$ 34.61	$ 2.63

- MCO net cost may be less than wholesale price of drug when copay and rebates are accounted for

MCO Reimbursement	$ 95.63
less Discount	$ 6.00
MCO Cost	$ 89.63
Wholesale List Price	$ 100.00

What Does This Mean for BMS?

BMS has only one price which it charges to wholesalers ⇨ Wholesale List Price (WLP)

Data Services like First Data Bank and Redbook then mark the WLP up by an amount determined by them to create an AWP

- This amount is generally between 20-25%
- These markup are not always consistent, can change at any time without any action by BMS, and are set wholly at the discretion of the data services

Implications

- The AWP that is set by the pricing services can have an impact on different customers so we need to be aware of how AWPs are used in the system
  - MCOs reimburse pharmacies based on AWP so they prefer that products have a lower AWP spread
  - Retailers, on the other hand, prefer that the product have a higher AWP spread because that increases their profit margin
- AWPs should not be used when comparing US prices with Wholesale Acquisition Costs (WACs) or Ex Factory prices in other markets

Conclusions

- AWPs can confuse the understanding of pricing within the US pharmaceutical system
- AWPs are outside of the control of BMS but do effect the way that customers view the cost of our products
- We need to be wary of using AWPs because the name is misleading